9390

PUNJAB ADMINISTRATION REPORT,
1911-1912.

Agents for the sale of Punjab Government Publications.

In London.

Constable & Co., 10, Orange Street, Leicester Square, W. C.

Grindlay & Co., 54, Parliament Street, S. W.

Henry S. King & Co., 65, Cornhill, E. C.

P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S. W.

Kegan Paul, Trench, Trübner & Co., 68-74, Carter Lane, E. C.

B. Quaritch, 11, Grafton Street, New Bond Street, W.

T. Fisher Unwin, 1, Adelphi Terrace, W. C.

W. Thacker & Co., 2, Creed Lane, London, E. C.

Luzac & Co., 46, Great Russell Street, London, W. C.

Oliver & Boyd, Tweeddale Court, Edinburgh.

E. Ponsonby, Limited, 116, Crafton Street, Dublin.

On the Continent.

Friedlander & Sohn, 11, Carlstrasse, Berlin.

Otto Harrassowitz, Leipzig.

Karl W. Hiersemann, Leipzig.

Ernest Leroux, 28, Rue Bonaparte, Paris.

Martinus Nijhoff, The Hague.

In India.

Thacker, Spink & Co., Calcutta & Simla.

Newman & Co., Calcutta.

R. Cambray & Co., Calcutta.

Thacker & Co., Bombay.

Higginbotham & Co., Madras.

T. Fisher Unwin, Calcutta.

V. Kalyanaram Iyer & Co., 189, Esplanade Row, Madras.

G. A. Natesan & Co., Madras.

Superintendent, American Baptist Mission Press, Rangoon.

A. Chand & Co., Imperial Book Depôt Office, Delhi.

Gulab Singh & Sons, Mufid-i-'Am Press, Lahore.

Manager, Punjab Law Book Depôt, Anárkali Bazar, Lahore.

S. Mumtaz Ali & Son, Rafah-i-'Am Press, Lahore [for Vernacular publications only].

N. B. Mathur, Superintendent and Proprietor, Nazair Kanun Hind Press, Allahabad.

D. B. Taraporevala Sons & Co., Bombay.

REPORT

ON THE

ADMINISTRATION

OF THE

PUNJAB AND ITS DEPENDENCIES

FOR

1911-1912.

LAHORE:
PRINTED AT THE PUNJAB GOVERNMENT PRESS,
MCMXIII.

Printed by Rai Sahib Lala Sita Ram,
Superintendent, Punjab Government Press, Lahore.

E-1 1911-12

CONTENTS.

PART I.

GENERAL SUMMARY.

	Page.		Page.
Scope of the report	i	Weather and Crops	xii
Changes in the administration	ii	Forests	xiii
Native States	ib.	Trade and Manufactures	xiv
Adminsitration of the land	iii	Public Works	xv
Colonies	v	Railways	ib.
Legislation	vii	Irrigation	xvi
Police	ib.	Revenue and Finance	xviii
Criminal Justice	viii	Census of 1911	xxi
Prisons	ix	Vital statistics	xxiii
Civil Justice	x	Medical relief	ib.
Registration	ib.	Sanitation	xxv
Local Self-Government	ib.	Education	ib.
Agriculture	xi	The Press	xxix

PART II.

DEPARTMENTAL CHAPTERS.

CHAPTER I.—PHYSICAL AND POLITICAL GEOGRAPHY.

	Page.		Page.
1. Physical features of the country, area, climate and chief staples	1	6. Details of the last Census—Tribes and language	62
2. Historical summary	16	7. Changes in the Administration	71
3. Form of administration	30	8. Relations with Tributary States and Frontier Affairs	72
4. Character of land tenures and system of Survey and Settlements	48	9. Condition of the people	80
5. Civil divisions of British territory	59		

CHAPTER II.—ADMINISTRATION OF THE LAND.

	Page.		Page.
10. Realization of the revenue	81	14. Waste lands and Government estates ...	85
11. Professional Surveys	83	15. Wards estates	87
12. Revenue Surveys and Settlements	ib.	16. Revenue and rent-paying classes ...	88
13. Land Records	84		

CHAPTER III.—PROTECTION.

	Page.		Page.
17. Legislating authority	91	23. Registration	102
18. Course of legislation	93	23A. Legal affairs of Government	ib.
19. Police	94	24. District and Local Boards	103
20. Criminal Justice	97	25. Municipal administration	105
21. Prisons	98	26. Military (Volunteering)	108
22. Civil Justice	100		

CHAPTER IV.—PRODUCTION AND DISTRIBUTION.

	Page.		Page.
27. Agriculture	110	32. Manufactures	122
28. Weather and Crops	116	33. Trade	124
29. Horticulture	118	34. Buildings and Roads	128
30. Forests	119	34A. Railways and Tramways	131
31. Mines and Quarries	121	35. Irrigation	132

CHAPTER V.—REVENUE AND FINANCE.

		PAGE.
36.	Gross Revenue and Expenditure ...	141
37.	Land Revenue	144
38.	Irrigation	*ib.*
39.	Opium and Excise	146
40.	Salt Revenue	149
41.	Stamp Revenue	151
42.	Assessed Taxes	151
43.	Forest Revenue	152
44.	Provincial Revenues	153
45.	Local Funds	154
46.	Municipal Funds	155

CHAPTER VI.—VITAL STATISTICS AND MEDICAL SERVICE.

47.	Details of Census	157
48.	Births and Deaths	167
49.	Emigration and Immigration	168
50.	Medical Relief	169
51.	Sanitation	171
52.	Vaccination	172

CHAPTER VII.—INSTRUCTION.

53.	General System of Public Instruction ...	173
54.	Education	184
55.	Literature and the Press	194
56.	Literary Societies	196
57.	Arts and Sciences	197

CHAPTER VIII.—ARCHÆOLOGY.

58. Archæology 199

CHAPTER IX.—MISCELLANEOUS.

59.	Ecclesiastical jurisdiction	201
60.	Ecclesiastical	207
61.	Stationery	207
62.	Punjab Government Press	*ib.*

MAP AND DIAGRAM.

Map of the Punjab ... ... In Pocket.

Diagram showing rise and fall in price of principal articles of agricultural produce in the Punjab. } Between pages 116 and 117.

E-1
1911-12

REPORT
ON THE
ADMINISTRATION
OF THE
PUNJAB AND ITS DEPENDENCIES
FOR
1911-1912.

PART I.
GENERAL SUMMARY.

[The "year" throughout this report is not invariably the financial year ending 31st March 1912. At the heading of each chapter a reference is given to the departmental reports which contain details of the subjects dealt with. The "year" of the present report is for each such subject the year mentioned in the title of the departmental report so referred to. In general it may be said that the "year" in Chapters I, IV, V, VII, VIII and IX means the financial year ending 31st March, in Chapter II it is the revenue year ending 30th September 1911, and in Chapters III and VI it is the calendar year ending 31st December 1911.]

SCOPE OF THE REPORT.

Scope of the report.

1. The present report, besides being the usual annual administration report of the province for the year 1911-12, brings up to date, as a basis for future reference, the eleven "red letter" sections, which are only revised every ten years. These are the first seven sections of Chapter I; the first section of Chapters III, VI and IX; and the first and third sections of Chapter VII. The treatment of the subjects of these sections follows the lines adopted in previous similar reports, except that section 2—Historical Summary has been confined to the history of the provincial administration, and section 3—Form of Administration has been greatly expanded. The opportunity has also been taken to incorporate in the red letter sections standing information previously less appropriately included in the annual sections. Of this instances will be found in section 4, section 47 and section 59. In the annual sections notice has for the first time been taken of the conduct of the legal affairs of the Local Government (section 23-A), of the operations in the Punjab of the Army Remount Department, and the work of the Government Cattle Farm at Hissar (section 27). Unfortunately no information in the case of the Remount Department is available beyond March 31st, 1911. In Chapter V some detail is given of the working of the present system of provincial finance.

The separation of the city of Delhi and its environs from the Punjab and the constitution of the separate Delhi Administration did not take place until after the close of the year with which this report deals. In consequence, throughout the report Delhi is treated as included in the Punjab.

Changes in the Administration.

The Lieutenant-Governorship.

2. Sir Louis Dane, G.C.I.E., C.S.I., D.O.L., was Lieutenant-Governor of the province throughout the year, but was on leave from the 28th of April to the 5th of August 1911, during which period Sir James Douie, K.C.S.I., officiated.

Move to Delhi of the Government of India.

3. The announcement of the transfer of the seat of the Government of India from Calcutta to Delhi was made at the Coronation Durbar at Delhi on December 12th, 1911, and forms the most important administrative event of the year. The decision to separate Delhi from the Punjab was arrived at after the close of the year.

Changes in the decade.

4. Ten years ago the creation of the North-West Frontier Province, which was proclaimed on the 25th October 1901, left the Punjab with five Commissionerships and 27 districts, but it was already recognised that the creation of new districts was inevitable, and in 1904 the districts of Lyallpur and Attock were established, the former in the area colonized by the Lower Chenab Canal, and the latter to relieve the Ráwalpindi district, which had become unmanageable. Although the number of districts and divisions has not since been altered, important territorial changes have taken place and will be found noticed in paragraph 79 of the report. On the judicial side of the administration the civil and sessions divisions were increased by 4 to 16 in 1909, but the further proposal to introduce the system obtaining in other provinces of District and Sessions Judges has not yet been carried out. Other important administrative changes have been the abolition in 1910 of the Settlement and Excise Commissionerships and the appointment of the 2nd Financial Commissioner and of the Financial Secretary to Government. The appointment of a Registrar of Co-operative Societies and that of a Director of Agriculture and Industries separate from the Director of Land Records are changes necessitated by the rapid development of the province.

Native States.

Population.

5. The population in 1911 of the 34 Native States subject to the political control of the Punjab Government was 4,212,794 and showed a larger decrease for the decade than the British districts of the province. This is, however, due to the fact that the more important of the States are situated in those portions of the Punjab in which plague has been most severe, and increases are shown in such States as had suffered from famine migration in 1901 or have not been severely visited by plague since that date. Whereas therefore the population of the Phulkián States, of Kapúrthala, and of Máler Kotla has declined, in the case of Nábha by as much as 16½ per cent., Baháwalpur, Mandi, Náhan, Chamba and the Hill States generally shew increases.

The Chiefs.

6. The principal Punjab Chiefs were invited to the Coronation Durbar at Delhi, and among other honours the Maharaja of Patiála received the honour of the G.C.I.E. and the Chiefs of Jínd, Nábha and Kapúrthala the hereditary title of Maharaja; the Maharaja of Kapúrthala also receiving the G.C.S.I. The aged Maharaja Sir Hira Singh of Nábha died on December 25th, 1911, Raja Bhawani Sen of Mandi on February 9th, 1912, and Raja Surindar Bikram Prakash of Náhan on July 4th, 1911. The deaths of the Raja of Nálagarh and of the Rana of Baghát also occurred in the year. In Mandi it was necessary to put a British officer in charge of the State pending

the selection of a successor to the Gaddi, but elsewhere the heir succeeded in due course. During the minority of the Chiefs the States of Baháwalpur and Farídkot are being administered by a Council of Regency in each case.

Principal events.

7. In Baháwalpur the completion of the Sharkia Sadikia Inundation Canal has made a large area of the desert available for cultivation, and colonization operations have been taken in hand. A revenue settlement is in progress in Mandi under a British Settlement Officer who has also, as explained, been placed in charge of the State during the interregnum caused by the unexpected death of the late Raja. In Máler Kotla the settlement is being carried out by an officer of the Provincial Service who has been lent to the State. The town of Náhan is being provided with water-works, and in Chamba a hydro-electric scheme is being carried out.

ADMINISTRATION OF THE LAND.

Form of assessment.

8. Ten years ago attention was drawn to the increasing proportion of the land revenue demand, which, instead of being fixed for a period of years, fluctuates according to the area or character of the actual crops grown. In 1892 one-twentieth of the total demand was classed as fluctuating. Nine years later the proportion had risen to between one-eighth and one-ninth. At present one-quarter of the total Government demand is assessed under fluctuating systems, and whereas within the last ten years the fixed demand has fallen from £1,480,000 to £1,406,000, in spite of course of increases which have taken place in areas where fixity has been retained, the fluctuating demand has risen from £206,000 to £473,000. Much of this increase is due to the introduction of the fluctuating principle in the assessments on the Lower Chenab and Lower Jhelum Canals where, until canal irrigation has assumed definitely stable conditions, a fixed demand is out of the question. The fluctuating systems place much power in the hands of petty officials and entail increased work on revenue establishments and the exercise of unremitting supervision. The advantages of an assessment adjusted to the varying conditions of each harvest are, however, undeniable, and opinion is only divided as to the point at which they counterbalance the obvious disadvantages under which such systems must necessarily suffer.

Collections.

9. Re-assessments in Karnál, Delhi, Hissar and Gurgaon contributed to raise the fixed demand by £30,000 and the favourable conditions of the agricultural year 1910-11 permitted of the recovery of 99·3 per cent. of this demand. An additional sum of £31,000 or 2 per cent. of the annual demand was collected out of the arrears of previous years. The new year 1911-12 opened with a recoverable balance of about £26,000 only, a state of affairs more favourable than has existed for many years. Moreover, the amount of suspended revenue which was remitted during the year was no more than £5,000. Under fluctuating demands the assessments show an increase of £113,000, and the demand of the past year is the highest yet formulated. The re-assessment of the Lower Chenab colony has been the principal factor in this result. Practically no portion of the demand under fluctuating assessments remains uncollected.

Proprietors.

10. The system of land tenures in the province is described in section 4 of the report. At annexation Government found itself in possession of large area of waste land unburdened with rights, the development of which became from the first an object of the administration. Little

progress was possible, however, until the inauguration of the various canal colonies as much of the land was only culturable with the aid of canal irrigation. At the present day Government is the owner of about one-sixth of the area of the British districts of the province, or if the area on the books of the various departments including the Forest Department is deducted of about one-eighth, and about one-thirteenth of the total cultivated area is owned by Government. Much of this land is in the canal colonies in which the State is now gradually divesting itself of proprietary rights under the permission accorded to colonists generally to purchase the area of their grants.

Tenants.

11. There is practically speaking no tenancy question in the province and the tenancy and rent litigation is inconspicuous in volume. Much of the land is cultivated by the owners themselves and on more than two-thirds of the area cultivated by tenants-at-will the rent paid is a fixed share of the produce, thus adjusting the landlord's claim to the ability of the tenant to pay. In the vast majority of cases the landlord's share is made over to him when the crop is gathered, and it is only when the landlord neglects to attend at the division of the produce or the tenant makes away with the crop without division that resort to the courts becomes necessary. In point of fact the position of the tenant at present is a strong one owing to the demand for tenants on the new canals and for labour generally, and it is not without adequate reason that a landlord proceeds to eject a tenant whom he may find it difficult to replace.

Value of land.

12. The Land Alienation Act has now been in operation for 12 years and has amply fulfilled the objects of its originators. For the three years preceding the passing of the Act the area sold was thrice and the area mortgaged was more than twice what it is now : and yet the area redeemed in a year now falls little short of the area redeemed in 1899. The rise in the market price of agricultural land in the year before the passing of the Act had been striking, but the subsequent rise after a temporary set back has been no less remarkable. In the five years ending in 1901, the average price was Rs. 78 an acre, while in the last five years it has been Rs. 114 and last year Rs. 129 per acre. Land now sells at 123 times the land revenue which indicates that the purchaser expecting no more than a 5 per cent. return on his purchase money estimates the rent received from the tenant to be 7 times the land revenue instead of being equal to it as theory still demands. The causes must be sought in the extraordinary rise in the price of agricultural produce and the progressive leniency of the assessments. The restrictions of the Alienation Act do not of course apply to urban land. The introduction of a new line of railway has in many cases led to an immediate increase in the prosperity of individual towns, but practically everywhere the demand for land for factories and other commercial purposes, the influx of labourers and the desire and means to pay for better and better ventilated houses have led to an astonishing rise in the value of urban land, while the tendency of the successful business or professional man to migrate to the suburbs of the town has greatly increased the value of suburban land.

Professional surveys.

13. Owing to the great development of the province in late years, the work of the Survey Department in the Punjab had fallen into considerable arrears and two whole parties were employed during the year on bringing the survey up to date ; a third party was also engaged in surveying

parts of the Delhi and Gurgaon districts. Altogether work was in progress in thirteen of the districts of the province.

Settlement surveys.

14. For revenue survey work, however, the province is mainly independent of professional surveyors. The square system employed is explained in paragraph 158 of the report. All the plains districts of the province have now been surveyed on this system and the correction of the field maps which have been prepared is well within the capacity of the village patwari. The process by which the survey square originally adopted as a basis for measurement work has become a unit of tenure, not only in newly colonized villages, but in other canal-irrigated areas also, will be found in paragraph 159 of the report. *Killabandi* is now firmly established on the Lower Chenab and Lower Jhelum Canals, and greatly facilitates the record of areas, irrigated and cropped. Indeed more than any other cause this uniform field demarcation contributes to the smoothness of the working of the system of fluctuating assessments on these canals.

Riverain detachment.

15. As an exception to the general rule the Punjab riverain detachment of the Survey of India is wholly employed in assisting the Provincial Revenue Department. Originally constituted to assist the measures, now completed, for laying down fixed boundaries on rivers under Punjab Act I of 1899, the detachment is now employed in laying down base lines for the future demarcation and survey of the riverain village boundaries and for the general co-ordination of the cadastral surveys of the riverain estates. During the year the detachment has also been employed on the important work of laying down 25-acre rectangles in the Montgomery and Multan districts to form the basis of the colonization operations which will shortly be undertaken on the Lower Bari Doab Canal.

Settlement.

16. Nine settlements of the ordinary character were in progress during 1910-11, of which those in Ludhiána and Hissar districts were completed. The Ludhiána settlement was carried out with great rapidity and at commendably small expense by Mr. Dunnett. In Hissar a settlement of extreme difficulty was carried out with no less success by Mr. Townsend. The result of the efforts made in recent years to simplify settlement work and shorten the period taken over the operations is now becoming apparent, but still further improvements are being introduced in the direction of keeping record work more thoroughly up to date after settlement. The power recently devolved on the Local Government of sanctioning the undertaking of new settlements is calculated to ensure greater regularity in the number of settlements in progress to the great advantage of the establishment employed. In addition to the above regular settlements, re-assessment work was in progress in the Lower Chenab colony and in the colony and proprietary areas on the Lower Jhelum Canal in Shahpur district. In both cases the period for which the initial low assessments were sanctioned had expired and full assessments are over-due. The increase in the fluctuating demand following re-assessments in the Chenab colony is estimated at £110,000 per annum.

COLONIES.

Development.

17. The wonderful achievement of extending perennial canal irrigation to the barren wastes of the Rechna and Jech Doabs forms a chapter in the administration of the Punjab which has no counterpart in any other province. The two main colonies which have been developed on the Lower Chenab and Lower Jhelum Canals have replaced a scanty aggregation of

pastoral nomads by a thriving and progressive population exceeding one-and-a-half millions. By the side of these great schemes the smaller colonies in Montgomery, Multán and Lahore, interesting as has been their development, seem insignificant. Colonization includes the selection of suitable cultivators from numerous villages in different parts of the province; the despatch of the selected colonists to the colony; the allocation of these immigrants in villages and in holdings, with due regard to considerations of tribe, caste, religion and family relationship; the demarcation of villages, holdings and fields; the reservation of grazing areas, the setting apart of village homesteads and the allotment of house sites therein; the selection of village officers; and the arrangements for securing the settlement of the village menials whose crafts and labour are indispensable to the agriculturists. For another class of non-agricultural population, the traders, shopkeepers, contractors and village bankers, provision has also to be made not only in the villages, but by founding towns at various centres thoroughout the colonies. Lyallpur, the head-quarters of the Chenab colony, has a population of over 19,000, and Gojra in the same colony of over 5,000; while in the sister colony the population of Sargodha approaches 9,000, and many other thriving towns have been established. At the present moment there is a lull in actual colonization operations in the province, though preparations are being made for a start on the Lower Bari Doab Canal in Montgomery and Multán, and on the Upper Chenab Canal in the Siálkot, Gujránwála and Montgomery districts. In the existing colonies the process of assimilating the conditions of the new settlements to those of the rest of the province is proceeding apace. The peasant colonists not bound by service conditions have recently been permitted to purchase on favourable terms the proprietary right in their holdings, and the privilege has already been exercised over a large area. With the completion of these purchases will disappear one of the chief peculiarities of the colony land tenures, the history of which is given in section 4 of the report. Although the colonies form an important portion of the area irrigated by the canals upon which they depend for their supplies of water and contribute very largely to the financial success of these irrigation works, the canals in each case irrigate old proprietary village land also. An account of the canal systems as a whole is given elsewhere. The Chenab colony has a total area of 3,828 square miles, of which 2,879 square miles have been allotted for cultivation, yielding some £170,000 per annum in land revenue alone. In this huge area it has been necessary to establish four new tahsils, three of which are included in the new district of Lyallpur. The Jhelum colony is a much smaller undertaking, and its continuity is broken by the existence in its midst of old estates. Even so the colony comprises an area of 900 square miles, with an allotted area of 616 square miles and a land revenue demand of some £38,000 per annum. Here the only administrative change has been the creation of one new tahsil, and the transfer of the head-quarters of the district from Shahpur to Sargodha has not yet been considered necessary. The establishment of the various agencies of Government, and of departmental, local and municipal administration has been no light task, and the provision of the necessary buildings and roads has been a severe strain on the finances of the province. The prosperity of the colonies however is an abiding fact, and now that the capital expenditure required for the existing colonies has been met, the whole province will increasingly derive from them the benefits secured by its sacrifices in the past.

18. The effects of the development of the colonies are felt in practically every department of the administration. For details the report must speak for itself, but attention may here be directed to the service grants by which Government has secured for itself certain public services as a condition of the grant. To many of the cavalry regiments of the Indian Army allotments have been made for stud farms which stand in a somewhat different category. Of the service grants proper the oldest are the village service grants to the village menials. The headman's grant is held with the appointment of village headman, and on the Chenab Canal is conditional on the breeding of mules fit for Army purposes. Small grants on tree-planting conditions have also been made. More important are the grants to camel-owners on special service conditions on the Lower Chenab Canal, and on the Lower Jhelum Canal the encouragement of horse-breeding is a principal feature of the allotments. Difficulties, especially in connection with questions of succession, arise in the service grants, and the impossibility of reserving grazing area for camels has led to a reconsideration of the question of camel service grants, but the benefit derived from the other service grants have been striking, and as long as they fulfil the objects with which they were introduced, there is no question of altering the conditions. Service grants.

LEGISLATION.

19. Considerable activity was displayed during the year by the Legislative Council, and five Bills passed into law, of which the Punjab Municipal Act is of first class importance. The general changes introduced by this law are noticed in paragraph 124. An important development was embodied in Punjab Act II of 1912 which gives to the Local Government the power, previously vested in the Supreme Government, of sanctioning the undertaking of settlement operations. In addition the Bill to regulate the administration of the Punjab colonies and one to establish village civil tribunals were advanced towards their final stages, while a similar Bill to establish village criminal tribunals, which has since been withdrawn, also occupied the attention of the Council. The power of interpellation granted to the Council by the reconstitution of 1909 was freely exercised, and 46 questions were put and answered during the year. No resolution, however, was moved. Legislation.

Among the Acts of the Imperial Legislature those more particularly affecting the province are the Criminal Tribes Act, the Indian Factories Act, the Co-operative Societies Act, the Provident Insurance Societies Act and the Indian Life Assurance Companies Act.

POLICE.

20. The police returns for the year indicate a considerable increase in the number of serious offences against the person and property. Murders, dakaities and robberies have been somewhat alarmingly frequent, and the province is at present suffering from one of the waves of violent crime, which from time to time sweep over the country. In particular the successful operations of frontier gangs, which penetrate far into the province, find willing imitators among the turbulent tribes of the north of the province. The success of the investigating force on the other hand diminishes as crime increases, and, although the number of true cases has increased by some 50 per Crime.

cent. in the decade, the number successfully dealt with has remained practically stationary. The statistics shew that only half of the true cases reported under the more important classes of crime are brought to trial and a conviction is obtained in one-third only of the true cases.

Present conditions.

21. For these results the reforms introduced on the recommendation of the Police Commission are to some extent responsible. No one, however, can regret the eradication of discreditable methods of working which, though acting as a deterrent, necessarily lowered the self-respect of the force and alienated public opinion. So far too as want of success is due to the inexperience of the new class of upper subordinate now recruited, the cause is of a temporary nature. Without the co-operation of the general public, however, the single-handed efforts of the police are bound to be largely infructuous. Education and material development are proving rapid solvents of communal responsibility, but progress has not yet advanced to the stage at which the individual recognises that, though his immediate interests lie in shielding the offender, it pays in the long run to throw his weight on the side of law and order. The valuable protection to society which the security sections of the criminal law afford, for instance, are rendered nugatory by the difficulty of getting respectable evidence against known bad characters. To the development of such a feeling the vernacular press can very materially contribute.

The courts.

22. The working of the police in their efforts to deal with crime is largely dependent on the assistance given by the courts. The speedy disposal of cases is the direction in which this assistance is most efficacious, and delays inevitably end in a reduction in the proportion of convictions,—a result of which the causes are obvious. Much of the time of the police is taken up by the investigation of cases upon Magistrate's orders, which is felt to be a hardship as the investigations are almost invariably useless. If too the courts have set up an almost impossible standard of evidence, as is sometimes asserted, much honest effort is wasted, the police force is unnecessarily brought into contempt, and the protection which society is entitled to expect is diminished.

The Durbar.

23. That the provincial police force is in one respect highly efficient was proved by the admirable services rendered on the occasion of the Coronation Durbar. The handling of the traffic and control of the vast concourse that assembled at Delhi won high admiration. The readily admitted success of the Punjab Police in the difficult task entrusted to it cannot but have the best effect on the morale of the force.

Criminal Justice.

Cases.

24. From what has been said above an increase in the number of criminal cases brought to trial needs no explanation. The figures returned are indeed the highest yet recorded, and, though petty cases of assault, mischief and the like contribute to swell the returns, the increase in serious cases is considerable. The number of offences relating to marriage is always a feature of the criminal justice returns of the province. The class of cases is one with which the courts are seldom able to deal successfully. Much of the present serious crime indeed is due to the falling-off in the number of women, which is a marked feature of the recent census. The increasing absence of ceremony multiplies the difficulties of the courts, and the need for registration or other tangible proof of the contract of matrimony is urgent.

25. Under a new system of recording the results of original criminal trials introduced during the year, it is calculated that slightly over two-thirds of the cases brought to trial are convicted or compounded. By the police returns, in which of course compositions rarely figure, the proportion is practically the same. Much of the time of the courts is taken up with cases which should be summarily dismissed, and the number of compounded cases in each district varies inversely with the number summarily dismissed. Insufficient use too is made of the power to order compensation to be paid to the accused in false complaints, the number of which is increasing. In appellate courts about half the appeals and two-thirds of the revisions are rejected. The statistics of the criminal administration show that the percentage of sentences of all kinds reversed in the Punjab is not higher than elsewhere, while the jail report discloses that a far higher percentage of prisoners are released on appeal than is the case in other provinces. The discrepancy will no doubt be explained next year. In the Chief Court a higher percentage of revisions were rejected, but a lower proportion of appeals; while death sentences in a year in which murders were unusually numerous were unusually few. Indeed, on the figures reported the culprit in a reported true case of murder has a six to one chance against suffering the extreme penalty of the law. Results.

PRISONS.

26. Although the number of convict admissions was not abnormal, the admissions of under-trial prisoners were much in excess of those of the previous year, and the daily average jail population was also considerably higher, though the release of 1,710 convicts on December 12th in connection with the Coronation Durbar, temporarily relieved the pressure. The health of the prisoners was not all that could be desired, and some anxiety is felt concerning the spread of tubercle. Discipline continues to be well maintained under the policy of considerate treatment insisted on by the authorities. The development of jail industries, consequent on the requirements of the various departments which have, under orders issued a few years ago, to be obtained where possible from the jails, is from the point of view of the latter exceedingly satisfactory, and the earnings in the year per head of the prisoners sentenced to labour constitute a further record. The earthwork done for the Canal Department on the Lower Bari Doab Canal is noticed in paragraph 491 of the report and redounds greatly to the credit of the jail administration. The jails.

27. The policy of concentrating prisoners in the larger jails of the province, which has been pursued for some years, is now nearly complete, and the smaller district jails have been reduced to the status of subsidiary jails which are collecting and forwarding institutions. A great gain of efficiency has been obtained by the change, and it is claimed that there is also a considerable reduction in cost, but in periods when, as at present, the jail accommodation is strained to the utmost, the extra cost of exchanging prisoners must largely reduce the saving obtained from collecting them in the larger institutions. The establishment of a Borstal Jail at Lahore, the preparations for which were nearly completed during the year, is a notable advance which will be watched with interest. A welcome experiment in the reclamation of criminals is being tried in the arrangements noticed in paragraph 331, under which juvenile Policy.

adults from this jail will be permitted to spend part of their sentence in the Salvation Army Danepur Settlement at Lahore.

CIVIL JUSTICE.

Suits.

28. The Punjab need no longer plead guilty to the charge that it is relatively to the total population the most litigious province in India though even so the total number of suits instituted per thousand of the population is double that returned by the neighbouring United Provinces. In suits to establish a right of pre-emption and in matrimonial suits the Punjab has the unenviable distinction of returning a greater actual number of cases than any other province. A decrease in the number of total institutions again returned this year may be due to many causes, and it still remains to be seen if the decrease is of permanent character. Matrimonial suits, though still far too numerous, are decreasing in numbers and the frequent absence of any form of ceremony causes much difficulty to the civil as well as to the criminal courts. Judicial opinion is strongly in favour of the abolition of the right of pre-emption. The opposition to such abolition, however, though it would cut down litigation with a bound, is very strong, and at present nothing further is contemplated than the removal of the anomalies of the present law.

Administration.

29. An improvement in the administration of civil justice is anticipated from the proposed entertainment of District and Sessions Judges, in place of the present system of Divisional and Sessions Judges explained in paragraph 94 of the report. The new scheme which has been accepted by the Local Government still awaits sanction by the Government of India. In the Chief Court successive restrictions of the right of appeal have as yet had little effect in relieving the congestion of work which is approaching the conditions which necessitated the temporary appointment in 1905 of four extra Judges. In addition to the permanent court of five Judges, two additional Judges have been employed for some time past. It is hoped, however, that recent amendments with the object of placing the law of appeal on the same footing as elsewhere may reduce materially the civil appellate work of the court.

REGISTRATION.

Registration.

30. A decrease in the number of compulsory registrations of titles has continued in the present year. The decrease is nearly all under the head of mortgages for which the present prosperity of the agricultural population might be thought sufficient reason, but the failure of the kharif harvest is given as the principal cause of the decline as checking redemption and mortgages for enhanced consideration. There is no doubt that the growing confidence in the mutation proceedings of the Land Records Department tends to reduce the resort to written deeds and this tendency is more particularly noticeable in the case of optional registration. The last word on the subject of the registration of titles in agricultural land in the Punjab has not yet been spoken.

LOCAL SELF-GOVERNMENT.

District Boards.

31. The year has been uneventful as far as district boards are concerned, though progress is recorded under Education, Medical, Veterinary, Arboriculture and village sanitation. The boards are hampered by the lack of funds not earmarked for specific expenditure, and few openings for originality are afforded. As yet the leading men in the rural communities prefer

nomination to election, and for the present the nominated element on district boards must remain considerable. The system of delegating powers to sub-committees and members is being extended with good results, and there is a growing tendency for the boards to take up general questions dealing with the prosperity of the district. In Lyallpur, for example, temperance reform and the restriction of expenditure on social ceremonies have engaged the attention of the district board. It is generally accepted that, owing to the small average size of districts, the district board is the smallest unit which can usefully be constituted with independent financial powers. For this reason the old local boards for tahsils were generally unsuccessful and have been gradually abolished. The proper line of devolution is therefore the formation of local sub-committees and not of separate sub-district boards.

32. The new Punjab Municipal Act came into force on October 1st, 1911. Under it certain defects of the old Act have been remedied and the powers of the committees have been extended in useful directions. There are now 107 municipalities, and a simple system of administration is in force in 104 notified areas. It cannot be said that much public interest is taken as yet in municipal administration, and elections generally are marked by indifference. A sectional system of representation in force in one or two cases has not yet got beyond the experimental stage. The working of the municipalities is reported to be satisfactory generally, and many members take a proper interest in their municipal duties. Efficiency is only secured as a general rule by official guidance. It is under consideration, however, whether local non-official Presidents cannot be substituted in cases where the President at present is a non-resident official. Little progress has been made in substituting other forms of taxation for octroi which is in force in 102 municipalities. It is the least unpopular form of taxation though it is open to various forms of abuse. House-taxes are distinctly unpopular, but some of the adverse feeling may be due to the arbitrary manner of the assessments. An improved form of house-tax is being tried in the Siálkot district, and the result will be watched with interest. The results of the conservancy tax, in Simla, which last year was substituted for the former servants' tax, have not come up to expectations, but the greater control obtained over the floating population of Simla may compensate for this by greater efficiency in sanitation and administration. Municipalities.

AGRICULTURE.

33. In the organization of the provincial department of agriculture a step forward has been taken in the scientific investigation of the condition of the principal industry of the province. Wheat, cotton and sugarcane naturally occupy the chief attention of the experts and demonstrations of the results achieved are now being arranged. The protection of cotton from boll-worm and sugarcane from moth-borer is of the greatest improtance to the farmer. The introduction of Arabian dates and reclamation of alkaline soils are other directions on which the energies of the department are engaged. Some progress too has been made with well-boring and in the production and distribution of labour-saving machinery. The department, however, suffers at present from the lack of a qualified Agricultural Engineer. Scientific.

34. In no direction has progress been more striking than in the development of co-operative societies which at the present day number 1,743, with a capital of Rs. 57½ lakhs. A description of the Punjab type of society will Co-operative societies.

be found in paragraph 103 of the report. So far the societies have been almost exclusively rural in type, but urban societies are now being encouraged, especially among weavers. The difficulties are much greater than in the case of agriculturists' societies, but do not appear to be unsurmountable. The recent development of central banks and of unions of societies is described in section 27 of the report.

Veterinary and live-stock.

35. The Punjab has every reason to be proud of its Civil Veterinary Department, the progress of which has been rapid since its reorganisation in 1901. By the establishment of a veterinary hospital at each tahsil in charge of a Veterinary Assistant and the appointment of a touring Veterinary Assistant in each district and of an Inspector for every two districts the scheme as originally put forward has been worked up to. The success achieved and the popularity of the relief afforded is strong encouragement for a fresh advance. Much information on the important stock-breeding industry has been published in Mr. Stow's Report on Cattle and Dairy Farming which will be valuable in guiding future developments. The past year has been as exceptionally healthy for live-stock as for human beings, and a greatly reduced mortality is reported. Eight horse shows and 34 cattle fairs are held under the auspices of the Department. The cattle fairs held in Hissar and Rohtak and at Amritsar are of great importance as markets, but as shows it is doubtful if any of the cattle fairs are successful.

Hissar Farm.

36. With the abolition of the Imperial Civil Veterinary Department the control of the Government Cattle Farm passed to the Provincial Government on April 1st, 1912, and the operations are for the first time now included in this report. The improvement of the important Hissar breed of cattle is the chief object of the farm, and a much appreciated type is now being produced. The farm does not bring in any large profit but even a small loss would be more than compensated for by the improvement in the cattle of the province brought about by the bulls issued from the farm. Donkey breeding has recently been started to supply jacks required by Government or the district boards for mule-breeding. The farm also supplies siege train bullocks and mules for military requirements. The interesting experiment is being tried of improving the fleece of country sheep by the introduction of the merino strain, and the results so far are distinctly encouraging.

Weather and Crops.

Harvests of the year.

37. Sowings for the autumn harvest of 1911 were greatly contracted by the dryness of April and May, and the subsequent failure of the rains led to extensive failure on all areas unassisted by artificial irrigation. The sown area was only 64 per cent. of the normal, and of this no less than 31 per cent. failed. Heavy rains in September, October and November, however, created very favourable conditions for the sowings for the spring harvest of 1912, and in fact the sown area was 13 per cent. above normal. Untimely drought in February and March dashed the hopes entertained of a record harvest, but even so the result was a good 18-anna crop. The year was one in which the economic importance of the canal system became very prominent. Except in the hills and a few submontane tracts there was no unirrigated autumn harvest and in the spring harvest the drought in the late winter again compelled resort to artificial irrigation. As usual the strain was well met by the Government canals which provide two-thirds of the arti-

ficial irrigation, though the inundation canals in particular had to contend with low supplies in the rivers.

38. The cultivated area of the province, which amounted 10 years ago to some 26¼ million acres, has increased in the decade by 8 per cent. and now stands at little short of 28½ million acres, and in the same period the irrigated area has increased by as much as 14 per cent. The area of crops sown varies greatly from year to year, and the variation is even greater of course in the case of matured crops. In the two harvests of 1911-12 the sown area aggregated 26¼ million acres whereas a matured crop was, owing to the extensive failure of the autumn harvest, obtained on 21½ million acres only. Of this average the total irrigated area was over 11 million acres. Cultivated area.

39. The diagram attached to the report indicates the course of prices in the Punjab of the main articles produced and consumed in the province. Prices are no longer dependent on the local agricultural conditions, and in the case of the main articles of export are adjusted to the conditions of supply and demand in the world's markets. Thus in the past year, in spite of the heavy crop, the harvest prices of wheat were even higher than in the previous year owing to the brisk demand for export. The high level to which prices have risen is a factor of great economic importance, but, in a province like the Punjab where the great majority are producers first and consumers afterwards, has contributed not a little to the general prosperity. Prices.

FORESTS.

40. About 9 per cent. of the area of the British districts of the province is borne on the books of the Forest Department. In addition some 360 square miles of forests in the State of Bashahr in the Simla Hills have been taken on lease by the department. The most important forests are those in the hills, chiefly in Kángra, including Kulu, and Bashahr, but the greatest area is situated in the plains, more especially in the Multán district. The greater portion of the area of the so-called forests in the plains is sparsely covered brushwood jungle, in which the application of the Forest Act safeguards the title of Government against the time when the land will be required for colonization. Large areas have already been surrendered for the Lower Chenab and Lower Jhelum Canal colonization schemes and the development of the Lower Bari Doab Canal will require the surrender of further areas in Montgomery and Multán. In place of these unproductive areas, schemes are being worked out for the establishment of irrigated plantations on the canals of the Triple-Project on the lines of the one which has proved highly successful at Changa Manga on the Upper Bari Doab Canal in Lahore district. The Forest Department has no monopoly of the market either for timber or for fuel. The supply of timber from the forests of Kashmír and the Punjab Hill States far exceeds that of the Government forests and prices are dependent on conditions beyond the control of the provincial officers. Over-stocked markets have adversely affected the working of the department which in the past year was only fairly successful from the financial point of view. Great administrative difficulties are encountered in the Kángra district in adjusting the requirements of the surrounding population to the paramount necessity of preserving the forests which are gradually deteriorating. That the interests of the population, among which the forests lie, are not neglected, is shown by the fact that right-holders and free- Forests.

grantees removed from the forests 1,288,441 cubic feet of timber a 12,642,731 cubic feet of firewood, as well as minor produce to the value £135,000. The resin factory established at Shahdara has been high satisfactory and a larger plant will shortly be installed.

Trade and Manufactures.

Trade.

41. Ten years ago the value of the trade of the Province during t year was 20½ millions sterling, shared almost equally between imports and e ports, and in both cases constituted for the time being a record. Durin 1911-12 the value has risen to 38½ millions sterling, and though imports of millions in value are the highest yet recorded, the exports of the year we below the figure of over 19 millions returned in 1907-08. In addition the n import of treasure amounted to £1,622,000. The chief imported articles a foreign cotton piece-goods forming 22 per cent. of the whole, Indian cotto piece-goods 8½ per cent., sugar 12 per cent., and metals 11 per cent. Th chief items of export are grain and pulse 53½ per cent., cotton 15 per cent and oil-seeds 10 per cent. These figures for the trade of the provinc provide convincing testimony of the existing prosperity of the Punjab. Un der treasure the net imports of gold (coin and bullion) were £637,000 an of silver bullion £1,476,000, but silver coin was exported to the nett amoun of £491,000. The absorption of silver bullion is no new feature of the Provincial returns, but the substitution of gold for silver coin in the circulation and, it may be surmised, in the hoards of the province is a movement of recent growth.

Industries.

42. The principal mining industry is the salt mining of the Salt Range which is conducted by the State itself. The Punjab coal mines are insignificant, and the total output scarcely exceeds 30,000 tons a year. Now that the principal mines have been handed over by the North-Western Railway to private enterprise, an increase in the output may be anticipated. The undeveloped condition of the mineral wealth of the province greatly reduces the scope for industrial enterprise, while the scarcity of local coal mines and the expense of fuel will always handicap manufactures. A further obstacle is the scarcity of labour much accentuated by the ravages of plague and malaria and the demand for field labour in the canal colonies. The most profitable industries or those requiring little labour have alone any chance of success. Capital, though scarce, is forthcoming to prosecute an industry that has been found to be profitable, and in fact cotton-ginning factories have outstepped the average supply of the raw material. Out of 268 factories dealt with under the Act no less than 202 are cotton-ginning, cleaning and pressing factories, but 59 ginning factories were not at work during the year for want of raw material. In addition to the above, 15 flour mills, 10 foundries, 8 cotton spinning and weaving mills, 3 sugar factories, 2 biscuit mills, and 1 woollen mill practically exhaust the list of large industries of the province. The list is still small, but a beginning has been made.

Joint stock companies.

43. Joint-stock enterprise has made a notable advance in late years, and the number of companies has risen from 51 in 1901-02 to 194 in 1911-12, and the paid-up capital from a little over half a million sterling to rather more than 1¼ millions. The character of many of these concerns, however, is such as to give rise to misgivings. Commercial confidence has at most a precarious existence still and in the doubtful nature of many of the companies lies the possibility of a considerable set-back in the development of a credit system.

Public Works.

44. The expenditure of the Buildings and Roads Branch of the Public Works Department reflects the general state of the provincial finances, as it is the first to suffer retrenchment when funds are scanty. The annual expenditure on establishment £50,000 and on repairs £10,000 admits of little reduction, but the outlay on new works fluctuates greatly from year to year. In 1908-09 the expenditure on new works fell to £105,000 and was hardly greater in the following year. During 1911-12, however, funds were once more plentiful and £193,000 were spent on original works, two-thirds of which went on civil buildings. The urgent requirements of the province in this direction are, however, very far from being met, though increased expenditure in the Jail, Police and Education Departments has relieved the most pressing necessity. The provision of works required by the normal development of the province has been greatly hampered by the extraordinary demands occasioned by the formation in the decade of three new districts and by the restoration of the losses caused by the earthquake in Kángra and the Indus at Dera Gházi Khan. Nor has the increased annual revenue from the canal colonies sufficed in the past to meet the demand for roads and buildings necessitated by the introduction of the machinery of administration in these hitherto desert areas. Most of these special demands have now been met, and, though the colonization operations shortly to be undertaken on the Lower Bari Doab will necessitate large expenditure on buildings, more attention can undoubtedly be paid to more normal requirements in future than has been possible in the last decade. General conditions.

45. The more important works under construction in 1911-12 were the King Edward Memorial Buildings at Lahore and the Simla Hydro-Electric Scheme. Work on the former, which is expected to cost in all some £230,000, has been started, and the latter is now all but complete. Buildings and Roads.

With the extension of railways the comparative importance of the roads other than feeder roads of the province gradually sinks, but the Department is responsible for some 1,100 miles of metalled and 700 miles of unmetalled road. £72,000 was spent on the maintenance of existing roads and £14,000 on new work. Most of the minor and feeder roads have been made over now to the District Boards with a grant to cover the cost of maintenance. This has been done with a view of encouraging Local Self-Government and in order to enable the District Boards to maintain better professional establishments.

46. Although principally concerned with works carried out at the charge of the Provincial Government, the Department undertakes work for the Imperial Government and for local bodies or private associations. During 1911-12 the expenditure incurred on such work was £45,000 and £16,000, respectively, out of the total expenditure of the Department of £408,000. Other activities.

Railways.

47. There are now 4,043 miles of railway line in operation in the Punjab inclusive of 141 miles opened during the past year. No serious accident occurred in 1911. The Jakhal-Hissar and Jullundur-Hoshiarpur branches of the North-Western Railway and the Jullundur Doab lines of the Southern Punjab Railway are under construction and now nearing completion. The returns of the main administration, the North-Western Railway, which Railways.

operates 4,880 miles of line both for the State and private companies in the Punjab, Sind and Balúchistán, show net earnings of practically 4½ per cent. on a capital outlay of £54½ millions sterling. The mileage includes the strategical railways on the frontier which yield little or no profit. The expenditure out of revenue on improvements has been very large of recent years, and it is probable that the real return upon the Punjab lines proper is well over 8 per cent. This administration was entrusted with the responsible task of organising the special arrangements required for the Delhi Durbar, and achieved a signal success.

The Punjab is now covered with a net work of lines of railway on the standard gauge admirably designed for the speedy and economical disposal of the surplus food products of the province upon which its prosperity so much depends. The traffic with its principal outlet to the sea at Karáchi can be rapidly handled since the completion of the second line of rail down the Indus to that port. In the provision of the less important feeder lines, however, much remains to be done to bring up the internal communications to a satisfactory standard. The construction of such lines is more the province of private enterprise, and the development of this agency is very desirable.

IRRIGATION.

Major Productive Works.

48. Eight canals in the province are classified as Major Productive Works, that is to say, they are expected to yield within ten years of their completion sufficient revenue to pay their working expenses and the interest on the outlay expended on their construction. These works are the Western Jumna, the Sirhind, the Upper Bari Doab, the Lower Chenab, the Lower Jhelum, the Sidhnai, the Upper Sutlej (Inundation) and the Indus (Inundation) Canals. The total cost of their construction now amounts to £7¾ millions sterling, and upon the capital outlay a profit of 16·13 per cent. was obtained in 1911-12, out of which an interest charge of slightly over a quarter of a million had to be met, resulting in a net profit after paying interest of little less than a million sterling. The whole of the canals have fulfilled the conditions of the class in which they are placed, even the Indus Canals, the weakest of the eight systems, having returned this year a surplus after payment of interest charges. The most remunerative canal of the province is still the diminutive Sidhnai Canal in Multán district, the profit on which amounted during 1911-12 to no less than 37·81 per cent., as the work was very cheaply constructed though it has stood well, but the Lower Chenab Canal also shows the magnificent profit of 36·06 per cent. This latter undertaking, upon which over £2 millions sterling has now been expended in capital outlay, returned a profit of £685,000 after payment of interest charges, and it is noted that the accumulated nett profits now exceed the cost by £2,460,000.

Minor Protective Works.

49. In addition to the above, five Imperial Works in the province are classed as Protective, of which three—the Lower Sutlej, the Chenab and the Muzaffargarh Inundation systems—only differ from those in the former class in that all expenditure is met from revenue, capital accounts not being kept. All three canals have more than paid their way and, inclusive of a small loss incurred on the insignificant Shahpur and Ghaggar Canals systems, the minor Imperial canals of the province return a profit of over £40,000.

50. The year has indeed been a favourable one for canal irrigation. The failure of the monsoon led to a keen demand for canal water both in the kharif and rabi harvests. The perennial canals were able to meet the demand and so reaped fully the advantage offered. On the inundation canals as a whole the river supplies were low, and moderate areas received irrigation. Taken altogether the canals in charge of departmental officers irrigated an area of 8,331,892 acres, which is compared with the average of 7,222,375 acres of the preceding three years. The result is eminently satisfactory. Among individual results the Sirhind Canal irrigated 1,609,458 acres against an average of 857,706 acres, and the Western Jumna Canal 775,450 acres against 593,615 acres. Both canals are in the east of the province, and the demand for canal water on these canals, unlike conditions elsewhere, fluctuates violently according to the rainfall, as in favourable years the cultivator is to a large extent independent of canal water. Character of year.

51. Although the larger canal systems of the province are classed as "productive," the very fluctuations above referred to, no less than the fact that one-third of the sown area of the province is canal-irrigated, show how essentially protective these canal systems really are. The protection is moreover not confined to the localities where canal irrigation is afforded. The overflow of the congested districts has poured into the colonized areas of the west, and the wealth earned in the colonies is widely distributed over the province. In years of scanty rainfall, such as the past, the stricken agriculturist of the unprotected areas finds a ready welcome and employment on the canal-irrigated fields; while local scarcity of fodder is remedied by train loads of *bhusa* despatched at concession rates from the abundance of the colonies. Though there are insecure areas in the east of the province to which canal irrigation can yet with advantage be afforded, it is unlikely that famine relief will be required in the future on anything like the scale of the past. Protective nature of the canals.

52. The immense scheme having for its object the irrigation of the high plains of the Lower Bari Doab by bringing the surplus water of the Jhelum and Chenab to supplement the scanty supplies in the lower reaches of the Ravi and incidentally to afford irrigation to the tracts through which the supply channels pass is now nearing completion, and in fact the Upper Chenab Canal, which was opened by His Excellency Lord Hardinge on the 12th April 1912, has now begun irrigation. By the close of the year capital to the extent of £4¼ millions sterling had been expended out of the revised estimate of £6¾ millions. It is now expected that irrigation will be afforded on the Lower Bari Doab in kharif 1913, and that the Upper Jhelum Canal, the most northerly of the series, will be opened by October 1914. Novel and difficult problems of canal construction have been presented to the engineers on all these canals. An interesting feature is the level crossing of the Ravi at the head of the Lower Bari Doab Canal, where it was desired to pass on the supply from the Upper Chenab Canal, supplemented by any cold weather supply in the river, but at the same time to discharge down the river its monsoon floods. Since the close of the year the river floods have been successfully passed over the level crossing which was completed in the previous cold weather. The greatest difficulties have been met with in dealing with the headworks and with the torrent works required on the Upper Jhelum Canal, and there The Triple Project.

have been delays. Night and day shifts have now been introduced on the headworks, and the end is now in sight. Although the present estimate for the project is well in advance of the original estimate of £5¼ millions, no fears are entertained as to the " productiveness " of the undertaking.

Revenue and Finance.

Gross revenue and expenditure.

53. The revenue raised in the Punjab during the year amounted to some £5,359,000. This includes revenue of the Canal, Salt and Opium Departments, but not the receipts of the Railways, Telegraph and Post Office, nor funds raised by municipalities and district boards. The total is made up of the following items :—Land revenue £2,319,000, Irrigation (direct receipts) £1,474,000, Salt £254,000, Opium £42,000, other Civil Departments £1,270,000. Expenditure, omitting that of the three latter departments, the municipalities and district boards and also military expenditure, amounted to some £3,421,000. The contribution of the province therefore to Imperial needs, which include defence, home charges and interest on loans, was a little under 2 millions sterling.

The revenue of the year shows an increase of £483,000 over the figures of the previous year, of which land revenue alone contributes £334,000. The general increase in the prosperity of the country has, of course, affected the land revenue receipts as well as those from the other main sources of income, all of which show increases. Owing, however, to the general system of fixed assessments the increase under land revenue is very gradual. The chief cause of the high figures now reported is the income from the sale of proprietary rights in land allotted in the colonies, which is of the nature of capital.

Land revenue.

54. The land revenue head in the accounts includes not only the ordinary demand which may be regarded as the State's customary share of the produce of the land, but also income received from the sale of Government rights in land and other receipts, generally of a petty nature, connected with the administration of the land. Thus out of the income of £2,319,000 under land revenue some £464,000 were derived from these other sources and principally from sales of proprietary rights in the colonies. The actual ordinary demand is thus rather less than 2 millions sterling. Even this demand includes the income derived from State-owned lands, still considerable, though dwindling with the alienation of proprietary rights. This though assessed as land revenue is in principle profits derived from the public estate and not ordinary land revenue, though in practice the difference is hardly appreciable. It also includes land revenue "due to irrigation" explained in the next paragraph which is essentially irrigation revenue, though collected for administrative convenience as land revenue. The ordinary demand is subject to violent fluctuations, for not only is the demand where fixed freely suspended in bad seasons and collected on the return of normal conditions, but one-quarter of the whole is now assessed as a fluctuating demand depending on the result of the half-yearly ascertainment of the harvested area and thus directly on the vicissitudes of the seasons.

Irrigation.

55. The direct income obtained from the Government canals of the province amounts to £1,474,000 and the expenditure to £984,000, giving a nett surplus of £490,000. The manner in which this surplus is shared between the

Provincial and Supreme Governments is explained in paragraph 498 of the report. As yet the Provincial share has not reached the minimum guaranteed by the Supreme Government, which in the past year contributed £21,200 as the balance necessary to make up the minimum. The opening of the new canals of the Triple Project, however, will very shortly remove the necessity for this annual contribution. The surplus here shown, handsome though it be, is not the only financial benefit derived by the State from the canals of the province, for much of the revenue which for administrative reasons it is convenient to assess and collect in the form of land revenue would be non-existent but for the canals. It is not in the nature of the case possible to calculate with mathematical accuracy the actual amount of this land revenue "due to irrigation," nor the deduction which has to be made therefrom for the increased cost of administration necessitated by the extension of canal irrigation, but care is taken to obtain some approximation, with the result that for the past year a nett sum of £446,000 was found to have been collected as land revenue due to the existence of the canals. Of this £388,000, due to the canals classed as major works, is shown in the Provincial accounts under the irrigation head. The amount of land revenue due to irrigation is rapidly rising with the imposition of full rates on the Lower Chenab and Lower Jhelum Canals. As it is, the nett annual income, both direct and indirect, obtained from the irrigation works of the province is close upon one million sterling.

56. The gross revenue of the Excise Department now amounts to over £424,000 and has increased by 142 per cent. in the decade. This astonishing increase has been caused in some measure by increased consumption due to the immense increase in the wealth of the province and especially of the agricultural classes. This, however, has also permitted of increased duties, while the strengthening of the preventive service has done something to keep down illicit practices. Since 1906 the excise administration has been engaged in carrying out the reforms advocated by the Excise Committee. Alcoholism and drug habits, however, depend upon conditions of religion and caste and to some extent of occupation rather than on changes and development of excise policy. It is easy to exaggerate the amount of intemperance in the province, but its existence in deplorable degree in certain communities will be admitted. While Government can do something to raise the cost of liquor and check illicit distillation and the unrestricted sale of drink, true temperance reform must come from the people themselves, and it lies upon the leaders of the particular communities which are most in need of such reform to awaken the communal conscience to a sense of duty. Excise.

Of the total income seven-tenths are derived from liquors, one-tenth from drugs and two-tenths from opium. The greatest income has been derived from liquors. There appears to be a slight tendency to substitute malt liquor for the ordinary cane spirit, and the tendency is one to encourage, though for the present it is confined to large cities and cantonments. A new feature of the liquor trade is the sale of "spiced" spirit, which is ordinary country spirit coloured and bottled. It is doubtful at present if this is displacing foreign spirit or the plain country article, but it seems improbable that the consumer is defrauded or the foreign spirit vendor injured by the sale of country spirit in this guise. The taxation of all kinds of opium has been increased during the year without resulting

in any reduction of consumption, though excise opium has increased in popularity at the expense of other descriptions. A large increase in the duty on charas has been followed by a considerable reduction in the consumption of this pernicious drug.

Salt.

57. The Salt Department is not under Provincial control. Its operations are practically confined to the mines in the Salt Range, though two small mines are worked in Mandi State and salt is obtained by evaporation from well brine in Gurgaon district. The nett profit to Government from the department in the Punjab is some £222,000. The average supply of salt per head of population works out to about 9lbs. per annum, and reckoning the duty at 1*s.* 4*d.* per maund of 82lbs. the salt tax falls at about $2\frac{1}{4}$*d.* per person per annum. As much of this is paid by graziers, it would be difficult to find a less onerous tax: and its indirect incidence renders it acceptable in a country in which direct taxation is generally open to strong objection.

Stamps.

58. The receipts from the sale of court-fee and non-judicial stamps grow steadily, and in the case of the latter can be regarded with satisfaction as being in the main attributable to commercial prosperity. In so far as the increase in the sales of court-fee stamps is due to increase in litigation, the result is one which must be regarded with regret in a province in which litigiousness is so widespread as in the Punjab. The net income from stamps aggregates £334,000 and the cost of administration is no more than $3\frac{1}{2}$ per cent. of the total receipts less refunds. The gross receipts have increased by more than 37 per cent. in the decade.

Income-tax.

59. The receipts from income-tax do not increase in proportion to the general increase in the material prosperity of the province, and gross receipts are only 13 per cent. in advance of those of ten years ago. In the meantime of course incomes of less than Rs. 1,000 per annum which previously paid somewhat less than one-fourth of the whole tax have been exempted from assessment, and to some extent profit obtained in the province pays the tax elsewhere, but it cannot be contended that an annual sum of £108,000, $\frac{1}{6}$th of which is deducted from the salaries of Government officials, represents the full legal amount due. The cost of collection is less than 1 per cent., but although the taxable limit has been raised, much time and labour is spent on the assessment and on hearing petitions of objection. The tax is exceedingly unpopular. Of the unofficial assessees, one out of every three petitions against his assessment.

Forests.

60. The transfer to the provincial section of the accounts of the whole forest income and expenditure, previously shared by the Provincial and Supreme Governments, has given the province an additional interest in the administration of the department. The departmental accounts show a cash surplus of £18,560, which compares unfavourably with that of the last and previous years. The accounts are, however, obscured by adjustments belonging to the accounts of other years. The preparation of capital and revenue accounts recently ordered will, it is hoped, go far to enable the financial aspect of forest working to be presented in a more intelligible form.

Provincial finance.

61. The system of provincial finance is explained in paragraphs 92 and 93 of the report. The new settlement, detailed in the latter paragraph, has had a welcome effect on the provincial exchequer, and, as shewn in paragraph 538 of the report, has given the province, on the figures for the past year, an income of £66,000 in excess of that which would have been

afforded by the old contract. The greater part of the increase, however, is due to the abnormal receipts from sales of land in the Canal Colonies already referred to. Income of this nature of course is available for increased grants for public works throughout the province, which, owing to the depleted condition of the exchequer in past years, are much needed in every department of the administration. Apart from this, however, the substitution of growing sources of income for fixed assignments, which was effected by the alteration in the provincial settlement, assures to the province a real participation in the general prosperity. The surplus receipts from Irrigation have not as yet exceeded the minimum revenue guaranteed to the province by the Supreme Government, but the opening of the canals of the Triple Project, which is now imminent, will remove this last exception to the general principle of elasticity.

Provincial income and expenditure.

62. The total provincial income aggregated £2,914,000 and the expenditure £2,685,000. In consequence the accounts which opened with a balance of £465,000 shewed a closing balance of £694,000. Of this, however, £255,000 comprise unspent balances of Imperial assignments for specific purposes, and the true provincial balance was £439,000. The figures indicate a far easier financial situation than has existed in late years.

Local funds.

63. The gross income of the district boards of the province amounted to £345,800, of which £90,500 was contributed by Government. The local rate collections amounted to £183,600. To enable them to discharge their obligations, several boards are finding it necessary to propose an enhancement of the local rate. Such proposals are readily sanctioned, as the proceeds, judiciously applied, bring in an ample return to the landholder on whom the rate falls. The main expenditure of the boards is on education and medical relief, but considerable sums are spent on horse and cattle-breeding and on veterinary objects and also on arboriculture. The expenditure on Civil Works amounted to £150,000, about half of which was spent on the roads. Owing to lack of funds and the difficulty of securing competent engineers, however, few district boards are able either to construct the roads required or maintain those existing in a moderate state of repair. The grants now being made from Provincial Funds should remedy this unfortunate state of things.

Municipal funds.

64. The income of the municipalities aggregated £476,000, of which £300,000 was derived from taxation, which falls at the rate of Rs. 2-10-2 on the population. The chief source is octroi. Of the expenditure over one-half was devoted to public health and convenience including large expenditure on capital account, one-twelfth to public instruction and one-sixteenth to public safety. The cost of collection and administration was one-ninth of the total expenditure. The municipalities were relieved during the year of police charges aggregating £34,600, Government having assumed all liability for the charges from April 1st, 1911. With one or two exceptions the municipalities closed the year with good balances aggregating for the province £123,800. The careful audit of the local fund auditors is mainly responsible for the marked improvement of late years in the municipal accounts.

CENSUS OF 1911.

Census.

65. The results of the census taken on March 10th, 1911, are published in Rai Bahadur Pundit Hari Kishen Kaul's Report. The province has now a population of 24,187,750, of which 19,946,369 are

in British territory, 4,212,794 in Native States and 24,587 in the tribal territory on the frontier of Dera Gházi Khan district. There has been a decrease as compared with the population in 1901 of 2·3 per cent. for the province, 1·7 for British territory and 4·8 for the States. The decrease has been occasioned partly by a very severe outbreak of malaria in 1908, which operated as usual to lower the birth-rate in the following year, but mainly by the plague epidemic with which the province has been afflicted in the past decade and the local changes in the population vary in inverse ratio to the virulence of the epidemic. The recorded deaths from plague in the decade have exceeded two millions, and mortality has been greatest among those in the prime of life and especially among women of child-bearing age. In British districts indeed the male population has increased, the decrease being confined entirely to females.

District figures.

66. Roughly speaking, the districts in the west and in the north-east Himalayas have gained in population, while those in the north, centre and south have lost. The largest decreases have been in Ludhiána, Ambála, Amritsar, Rohtak, Gurgaon and Jullundur. Ludhiána has been the greatest sufferer from plague, and in this district population has fallen off by 23 per cent. On the other hand, every district in the Multán division, which has very generally escaped any visitation of plague, shows an increase. Special causes affect the figures of the Lyallpur and Jhang districts of this division, as also those of the Shahpur district of Ráwalpindi division, in all of which active colonisation work has been in progress, but the increases in Multán, Montgomery, Muzaffargarh and Dera Gházi Khan are entirely due to the general development of these thinly-peopled districts. Miánwáli and to some extent Attock are similarly circumstanced and shew large increases, but in Ráwalpindi, Jhelum and Gujrát, where plague was also prevalent, the population is practically stationary. In the other three divisions the succession of decreases returned for each district is broken only by Kángra, where in spite of the earthquake of 1905 a small increase has occurred, and by Hissar and Ferozepore, which districts share the growing prosperity of the Sirsa-Fázilka tract.

Abnormal conditions.

67. The abnormal conditions which have affected the population during the last decade are apparent in many of the census tables. The proportion of females, always low, had been gradually rising at each successive census since 1881, the result no doubt of improved conditions, both moral and material. This improvement has been entirely wiped out by the plague mortality among women, and 816, the present ratio per 1,000 males, is far below the figure recorded in 1881. The proportion of children in the population is at present abnormally large, especially among females, and the mean age of the people is proportionally lowered. Again, it is the Muhammadan west that has escaped the visitation of plague, and in consequence the proportion of the followers of the Prophet in the population has increased in the province generally.

Summer Census of Hill stations.

68. A special census of the three principal hill stations of the province was taken on June 30th, 1911, to ascertain their normal summer population. The results of this census are given in paragraphs 578 to 581 of the report. The figures are for Simla 37,895, for Murree 16,934 and for Dalhousie 7,592. In Simla the winter population is about half the normal summer population, but in Murree and Dalhousie, the summer populations of which consist largely of British troops, the winter figures are quite insignificant.

VITAL STATISTICS.

69. The average birth rate in 1911 was 43·9 *per mille*. The ratio shows a steady increase since 1909, when, in consequence of the fever epidemic of 1908, the birth rate dropped to 35·1 *per mille*. The following years have been remarkably free from malaria. Male births exceeded female births by 1·9 per cent. The birth rate in the four largest towns was also remarkably high, ranging from 45 *per mille* in Multán to 36 in Lahore. Births.

70. The average death rate was 34·05 *per mille*, the continued prevalence of plague keeping up the rate above that of the most healthy years of the past. Infant mortality is still deplorably high, though much lower than ten years ago, and it is further noted that female infant mortality is now less than that of males. In Lahore the death rate was 29·86 only, and in Multán 32·55, but in Delhi, where plague was prevalent, it was as high as 59·58. Deaths.

71. Even in a year of widespread freedom from malaria, a little less than half of the deaths are ascribed to fevers. The mortality from this cause, however, was 40,000 less than in the previous year, itself comparatively free from malaria. The death rate from fevers 15·33 *per mille* is the lowest recorded since 1877. Fevers.

72. The epidemic of plague in 1911 was considerably more severe than that of the previous year, and roughly a quarter of the total deaths of the year were returned as due to this cause. Hoshiarpur, one of the districts most severely stricken, has suffered for 14 years, and it is still a regular plague centre. The chief mortality occurred in April, May and June, the result, it is believed, of the heavy rainfall in March, which not only led to a large increase in the prevalence of fleas but kept back the high temperatures of the hot weather season, with the appearance of which the active plague season ends. Plague.

73. The mortality from cholera was important in the district of Siálkot only, where it was disseminated from a local fair. To such fairs and to those at Hardwár is generally traced the source of infection of the cholera epidemics which appear from time to time. Small-pox was more prevalent than in the previous year, but the mortality was small. The figures for deaths from dysentery and diarrhœa, from diseases of the respiratory organs and from other causes do not present any special features. Other diseases.

74. The agency for the collection of the vital statistics is described in paragraph 121 of the report, and it will be seen that in rural areas it is the village watchman, whose position is described in paragraph 109, upon whom we are dependent for these returns. As regards numerical accuracy the census returns show that very fair reliance can be placed on the agency employed, but in the diagnosis of the causes of death it would be too much to expect any nicety of distinction : and as a matter of fact many diseases are vaguely returned as fever merely because there is an apparent rise in temperature. Statistics.

MEDICAL RELIEF.

75. Practically the whole of the hospitals and dispensaries open to the general public are maintained by the various municipalities and district boards. There are a few private institutions, and the Mayo Hospital at General.

Lahore is maintained by Government, which also assists the other institutions with grants-in-aid. Seventy per cent. of the total expenditure is defrayed by municipalities and district boards, 12 per cent. by Government, 12 per cent. from subscriptions and 6 per cent. from miscellaneous sources. The subscriptions, however, are mostly received from abroad for Mission female institutions. To check the abuse of free medical relief by those able to afford to pay for medical attendance fees are now charged in some cases to well-to-do patients at the dispensaries and hospitals, a practice which may have some effect in encouraging the private medical practitioner.

Patients.

76. Naturally in the circumstances of the year the number of out-patients shows a considerable falling off, malaria patients being 200,000 less than in the previous year. In-patients were only slightly less, and an increase in the number of female patients testifies to the growing confidence in the management of the hospitals. Surgical cases continue to increase rapidly, and the province is fortunate in the possession of many surgeons, both European and Indian, who have won the confidence of the people.

Special dispensaries.

77. Departmental dispensaries are maintained by the Canal, Police and Railway Departments for the treatment of their employees, the returns for which are separately maintained. The characteristics of the year in the case of these hospitals were similar to those above recorded. A proposal is on foot to open canal dispensaries to the general public in places where they are conveniently situated.

Pasteur Institute.

78. The Pasteur Institute has been established at Kasauli since 1900 and the anti-rabic treatment is increasingly resorted to by the Indian population. The institute is also the provincial laboratory of the Punjab.

Lunatic Asylum.

79. The number of inmates of the Lahore Lunatic Asylum steadily rises owing to the growing confidence in the institution. The facts that one-fifth of the inmates are criminal lunatics, that the majority of the patients come from neighbouring districts, and that only one-fifth of the total are females shews that a decrease in lunacy in the general population is not incompatible with an increase in the number treated in the asylum. As funds allow the comforts and amenities of the institution are being steadily improved and the lunatics are immeasurably better off than in their own homes.

Leper Asylums.

80. At the recent census 3,091 persons were returned as lepers, whereas the number annually treated in the five asylums of the province does not exceed 600. The law, however, does not authorise the detention of lepers against their will.

Vaccination.

81. The prevalence of small-pox in various parts of the province led to an increased resort to vaccination, but four-fifths of the operations were primary vaccinations. Some difficulty was experienced in the preparation of lymph at the vaccine institute and the percentage of successful operations declined. A new institute is being erected at Lahore and will shortly be opened.

Malaria Investigation.

82. As a result of the Imperial Malarial Conference of 1909, a special investigation of malaria is in progress in the province. The prevention and treatment of malaria are especially important in the Punjab, which suffers most severely from this scourge.

SANITATION.

83. The authorities concerned with the sanitation and public health of the province are detailed in paragraph 119 of the report. In the towns generally, and especially in the large towns, the importance of the provision of a good drinking supply and of proper drainage works is fully recognised, and such schemes are continually being carried out with the advice and under the supervision of the provincial staff of experts. Experiments recently made under the orders of the Local Government for increasing the supply of water in wells by sinking tubes fitted with strainers have been very successful, and the results go far to solve the problem of a good water-supply. In the past improvements in the sanitation of municipalities has been greatly retarded by want of funds, an obstacle now removed by generous allotments for the purpose by the Imperial Government. Indeed more recently the difficulty has been to spend the grants. More harm than good is done by carrying out hastily-devised schemes, and the time and care necessary for the proper development of suitable schemes have not permitted of the full allotment of the annual grants. With the knowledge that funds are readily forthcoming for well devised schemes this difficulty too has now been removed. Sanitation.

84. Although the future of sanitation is full of hope in the municipalities, in rural areas there is far less cause for satisfaction. The villager sees as yet little to object to in the sanitary condition of his surroundings, and the first development in rural areas must be educative. Until the peasant realises that disease and death lurk in dirt and filth he cannot appreciate the necessity for measures of sanitation to which he is unaccustomed, especially if introduced at his expense. Much, too, that is unsavoury in village life is not actively unhealthy, and here, too, improvement must wait upon the increased appreciation of, and desire for, better things. Special attempts were made in the colonies to secure the construction of sanitary villages, and this has led to a considerable improvement there which should react upon the parent districts. Rural sanitation.

85. In one respect the efforts of the sanitary officers have met with conspicuous success. The sanitary supervision of the great fairs of the province has greatly diminished the infection disseminated by the huge concourses of people that assemble from time to time at Thánesar, Nankána Sáhib, Pákpattan or Katás. In particular, epidemics of cholera, so frequently traced to such gatherings, have been greatly reduced in frequency and virulence by the measures taken. Fairs.

EDUCATION.

86. In Chapter VII of Part II will be found a full history of the introduction and progress of education in this Province. The Census returns show that in the total population only 1 in every 27 can read and write a letter, a definition of literacy somewhat stricter than previously adopted. Among Hindus the proportion of literates is 1 in 18, among Sikhs 1 in 17 and among Muhammadans 1 in 63. The figures indicate a slight reduction of the disproportionate illiteracy among Muhammadans as compared with the Hindu and Sikh communities. It is to the stricter definition of literacy, mainly, that the striking fact noticed in paragraph 652 of the report is due: that in the last 30 years the proportion of the male population classed as literate has only risen from 6·2 to 6·3 per cent. Literacy in English, on the other hand, increases apace. Ten years ago 1 in 10 of the literates was Census results.

literate in English, the proportion is now 1 in 8. In the past, however, the education of females has made but little headway, and whereas among the male population the proportion of literates is as high as 1 in 16, it is no more than 1 in 172 among the women.

Attitude of the people towards education.

87. As regards the attitude of the people towards education, no official encouragement is necessary to bring the trading and professional classes to an appreciation of its advantages, but this appreciation proceeds chiefly from the habit of mind which regards education merely as a stepping stone to a Government appointment or a clerical career. No such advantage attends the acquisition of an education which is not carried beyond the primary stage; consequently it is in the encouragement of elementary schools that there is most need for official effort. The ordinary agriculturist, moreover, is apt to consider that education spoils a ploughman. However, among the more thrifty agriculturists, especially those whose connection with the Army brings them into closer touch with the larger world, there is some appreciation of the material advantages which education is so often found to confer.

The absence of any material motive is also largely responsible for the indifference generally displayed towards female education, though in this case prejudices—both religious and social—also come into play. There are distinct signs, however, that an enlightened view of the importance to the community of female education is growing as educated men now want educated wives, and the future is full of hope.

Organisation of schools.

88. An account of the organisation of schools for general education will be found in paragraph 636 of the report. In the Punjab secondary schools include primary classes, a system different from that in force in some other provinces. In high schools scientific and commercial courses are prescribed in addition to the ordinary course leading to study in an Arts College. Attempts to evolve a type of primary school adapted to the needs of the agricultural classes have not hitherto been very successful, and the present type of "rural" primary school is scarcely more popular than the "zamindari" school which it replaced. The importance of examinations has been reduced to a minimum. The Infant and Lower Primary Examinations were abolished some years ago, and more recently the Middle School Examination was abolished in the Anglo-Vernacular Schools. In the Vernacular Schools in which education does not proceed beyond the Middle Department the examination serves as the school final examination, a purpose served in Anglo-Vernacular Schools by the Matriculation Examination. The superior material advantages of an English education lead to a very general desire to convert Vernacular into Anglo-Vernacular Schools, and indeed none but Government schools are of the former type. Apart from the necessity of obtaining teachers for the primary schools who are obtained from Vernacular Secondary Schools, the education afforded by these schools is in the opinion of expert educationalists a more thorough training, not only for the business of life, but also as a basis for further study.

Primary schools, Indian boys.

89. The increased grants for primary education in the last decade have led to a great expansion in the number of pupils receiving education in boys' primary schools who ten years ago numbered 140,391 and now 238,623. Numerically the increase is all that could be desired. Further improvement depends largely on the provision of funds, and in view of the possibility of money becoming available a carefully considered scheme of development has

been worked out. It is in the provision of trained teachers particularly that foresight has to be shown, and by recent improvements in the position of primary school teachers the present leakage of trained men into more attractive professions has been stemmed. Selection has already become possible in the admissions into the Normal Schools. Less than half the teachers in the primary schools at present, however, have undergone training and, to meet immediate requirements, training classes have been attached to many good Vernacular Schools. Great as is the progress already made towards the goal of universal education, the task that lies before the educationalist is still stupendous. Not only has the agriculturist to be persuaded that education is not actually an economic disability, but the mass of the low caste population has to be brought to the schools. Figures given in paragraph 651 of the report show how little the low castes have been affected as yet by the present educational movement. Great as must be the cost of free and compulsory education, it is not the only nor indeed the most difficult of the obstacles to be surmounted. Elementary education is largely free as it is, and the average fees of those who do pay is less than 2 annas a month.

Secondary education, Indian boys.

90. The demand for secondary education requires little stimulus Private enterprise, especially on the part of religious societies, is conspicuous in this direction. The number of pupils in secondary classes is 32,976 as compared with 21,822 ten years ago. The present number is about 3 per thousand of the total male population. Although fees have recently been raised, they at present barely cover one-half of the expenditure. In view of the desirability that education in the higher grades should be self-supporting, the increase in the fees, which had remained unaltered since 1892, can hardly be considered premature. A feature of the Punjab school system is the establishment of hostels which are attached to almost all the secondary schools to the great advantage of the pupils and the cause of education generally. In spite of improvements effected in the decade the education imparted in secondary schools is still below a satisfactory standard. The difficulty of teaching subjects in Anglo-Vernacular Schools through the medium of a language with which the teachers are themselves imperfectly familiar is one which will decrease in time. As yet the supply of qualified teachers is not keeping pace with the growing demand, and the tendency to extend secondary education regardless of the conditions under which it is given must be inimical to the best interests of the country. Still the class of student at the Central Training College, where secondary school teachers are trained, improves year by year, and the applicants for admission far exceed the accommodation at the college.

Indian girls' schools.

91. The development of female education in the decade has been phenomenal, and the number of girls attending public institutions has risen from 13,807 to 33,959. This increase has been most noticeable in the higher stages of education. Satisfactory as these figures are, as evidencing the weakening of prejudice against female education, the movement is in its infancy, and in this respect the Province is still very backward. The difficulty of obtaining trained teachers is acute. The Normal School at Lahore fails to attract girls from outside, and reliance has to be placed on local training classes for the supply of trained women teachers.

Collegiate education.

92. There are now eleven Arts Colleges in the Province as against 13 in 1901-02, but the number of students has increased from 1,331 to 2,659. University education indeed has attained a high standard in the Punjab, and the

vicinity of the Lahore Colleges, which comprise the bulk of the college students, is particularly favourable for the growth of a University spirit. The Punjab is unique in having an Oriental as well as an English Arts course, each leading up to a Master's Degree. The Oriental College is a survival of the intentions of the original promoters of a University scheme for the Punjab, and though at present lacking in vitality, can and should be made to combine the virtues of old-fashioned Oriental erudition with the demands of modern scholarship. The decade has seen an immense improvement in the English Colleges. The teaching of science has made great strides, and in discipline, in character training and in athletics much has been accomplished.

The University.

93. The reforms in the University introduced in 1904 are noticed in paragraph 647 of the report. In addition to the eleven Arts Colleges of the Province, six Arts Colleges of the Native States or North-West Frontier Province as well as the Training, Law and Medical Colleges are affiliated. The closer supervision of colleges by the University through its inspecting committees has had a beneficial effect, and the colleges aided by liberal grants from Government have made loyal efforts to meet the requirements of the University. At the same time the closer intercourse of the college professors has had a beneficial effect in developing a corporate University feeling.

Professional and technical education.

94. Professional education is represented by the Law, Medical and Veterinary Colleges at Lahore, the Agricultural College at Lyallpur, and the Engineering School at Rasùl in Gujràt district. The latter institution opened during the past year is a notable advance in professional training. The Province is well equipped in this respect. The Training College has already been mentioned. In the Medical and Veterinary Colleges it possesses institutions in which it takes a justifiable pride, and the Law College which, with the Oriental College, is maintained by the University needs no artificial stimulus. For the training of the craftsman the Mayo School of Arts and the Railway Technical School perform increasingly useful services. The industrial schools maintained by local bodies offer possibilities of development, and the whole question of industrial education has recently been considered by a committee whose recommendations are now before Government.

Education of Europeans.

95. The chief obstacle in the way of providing educational facilities for the domiciled community is the small and scattered nature of the numbers to be dealt with. A sufficiently high proportion of provincial expenditure on education is devoted to this object already, and policy is at present directed to economy, in the direction of restricting secondary education principally to boarding schools in the hills and of extending the number of primary schools under competent teachers in the plains. The wants of the poorer members of the community have been met by the provincialisation of the Lawrence Memorial School at Murree and the rapid rise in attendance there has shown that the want was real. The present financial position of the schools is far more satisfactory than it has been in the past, and an adequate supply of trained teachers can now be expected from the men's training classes at Sanáwar and from St. Bedes Ladies' College at Simla.

Education of the upper classes.

96. There is no doubt that the advantages of education are appreciated by the aristocracy of the Province; for practically every boy of what may be considered the upper classes is reported on as being educated. The Aitchison College at Lahore, the pupils at which belong to the leading families of the

Province, has maintained a well deserved popularity. The recently established Queen Mary's College will, it is hoped, eventually do for girls of good family what the Aitchison College is doing so well for their brothers.

The Press.

97. The total number of newspapers published during the year was 248, published mainly at Lahore, and in fact only 16 are published elsewhere than at Lahore, Amritsar and Delhi. The circulation of Indian-owned papers is still very small, though there has been a considerable rise in the decade. The greatest circulation returned by a newspaper published in English is 2,194 and by a vernacular newspaper 14,585. The average circulation of all papers is 287,641, and in the case of many it is under 1,000 copies. It is idle to suppose that, with the exception of a few of the newspapers, the emoluments derived from such journalism offer any attraction to men of the highest attainments, but some of the newspapers at least have reached a high level, and the proprietors of such papers recognise in an increasing degree their responsibilities to the public. This is still far from being the case with the less responsible vernacular productions, and during the year the bitterness of the religious controversy carried on necessitated the issue of a general warning by Government against the publication of articles calculated to foment sectarian animosity. Newspapers.

PART II.

CHAPTER I.

PHYSICAL AND POLITICAL GEOGRAPHY.

I. PHYSICAL FEATURES OF THE COUNTRY. AREA; CLIMATE AND CHIEF STAPLES.

Area.

Introductory.

The Punjab with its Feudatory States and the Baloch trans-Frontier covers an area of 136,330 square miles, and includes a population of 24,187,750* souls, and thus contains about one-thirteenth of the area and population of the Indian Empire. The population includes 12,275,477 Muhammadans, 8,773,621 Hindus and 2,883,729 Sikhs. Together with the North-West Frontier Province and Kashmir, which lie to its north, it occupies the extreme north-western corner of the empire, and, with the exception of that province, comprises all of British India north of Sind and Rajputana and west of the river Jumna. Thus situated, the immigrant swarms which have from time to time poured into India, and the conquering armies which have from time to time invaded it, have alike crossed the plains of the five rivers from which the province takes its name ; while its great eastern plains, which part the waters that flow on the one hand into the Indian Ocean and on the other into the Bay of Bengal, have ever formed the battlefield of Northern India. Nor is its present interest inferior to its historical importance. Stretching northwards up to and beyond the great peaks of the Central Himalayas, and embracing the Tibetan valleys of Láhul and Spiti, it includes in its eastern districts a portion of Hindustan, and on its southern border it encroaches upon the great prairies of Rajputana, while its trans-Indus district of Dera Gházi Khan contains a race whose history and traditions are connected with Baluchistan rather than with the Punjab. Indeed, the diversity which marks the physical and geographical aspects of the province is no less characteristic of the races which inhabit it, of their origin, language, beliefs, customs and social structure.

Position, shape and size.

2. The province lies between 27° 39′ and 34° 2′ north latitude and 69° 23′ and 79° 2′ east longitude. Its shape is something between a dice-box and an hour-glass, the axes crossing at Lahore, and the longer axis running nearly east by south. The length of the longer axis is about 450, and of the shorter 160 miles ; the eastern base measures some 370 and the western some 480 miles. The constriction in the middle is due to the fact that the northern boundary runs up into the hills of Chamba and Kulu in the east and of Hazára in the west, on either side of the State of Kashmir ; while to the south the province stretches down the fertile banks of the Jumna to the east, and of the Indus to the west, between which two rivers the arid deserts of Rajputana extend northwards to within a hundred miles of Lahore.

Boundaries.

3. Along the northern border of the Punjab, Himalayan ranges divide it from Chinese Tibet and Kashmir. Between these ranges and the Indus the Hazára district of the North-West Frontier Province completes the northern boundary. On the west it is separated from the North-West Frontier Province by the Indus, except for a short distance in Miánwáli district, until that river reaches the border of the Dera Gházi Khan district which is divided from Baluchistan by the Sulemán Range. To its south lie Sind, Rajputana,

*This includes 23,587 for the Baloch trans-Frontier.

and the Muttra district of United Provinces of Agra and Oudh; while on the east the rivers Jumna and Tonse separate it from the same provinces, and on the north-east a mighty Himalayan range shuts it off from Chinese Tartary.

Political divisions, area and population.

4. The Punjab includes three classes of territory,—that belonging to the British Crown, that in the possession of the 34 Feudatory Chiefs of the province, and the small tribal area on the western border of Dera Gházi Khan district. The area and population of these separate classes are shown in the margin.

Territory.	Square miles.	Population.
British	97,213	19,946,369
Native States ...	36,551	4,212,794
Tribal territory ...	2,566	28,587
TOTAL PROVINCE ...	136,330	24,187,750

Of the total area of the province, some 24,000 square miles consist of mountainous or elevated tracts, and the remainder of plains. Of the 97,213 square miles included in British territory, about 44,500 are cultivated, of which 15,770 were irrigated in 1910-11; 26,000 more are classed as culturable and would repay the labour of the husbandman were means of irrigation available; forests occupy over 7,000 square miles, much of which is culturable; while the remainder is not available for cultivation or consists of inhospitable mountain-sides or unculturable waste. The dominions of the 34 Native Chiefs vary in size and importance from the principalities of Patiala and Baháwalpur, with areas of 5,412 and 15,000 square miles, and populations of 1,407,659 and 780,641, respectively, ruled over by Chiefs subject only to the most general supervision, to the tiny State of Darkuti, with an area of 8 square miles and a total population of 521 souls, whose ruler is independent in little more than the name. They may be grouped under three main classes. The Hill States, lying among the Punjab Himalayas, and held by some of the most ancient Hindu Rajput families in the world, include Chamba, Mandi, Suket, Sirmúr, and the 19 Simla States, of which last only eight exceed a population of 10,000, while only five exceed an area of 250 square miles. Along the western half of the southern border of the Punjab and separated from British territory by the Sutlej lies the Muhammadan State of Baháwalpur, consisting of the left Sutlej valley and a broad strip of the Rajputana desert. The remaining States, including the possessions of all our great Jat Sikh feudatories, lie wholly east of Lahore, and with insignificant exceptions occupy the centre of the eastern plains of the province.

Physical features.

Mountain systems.

5. The mountain regions of the Punjab naturally fall under four separate groups. To the north-east of the province lies the Punjab section of the Himalayan system, with the fringing range of the Siwáliks at its foot. In the south-eastern corner of the Punjab the Arávali system sends out insignificant outliers which run across the Gurgaon and Delhi districts and strike the Jumna at Delhi. The lower portion of the western frontier is constituted by the great Suleman chain; while the north-western districts of the province are traversed by the hill system known as the Salt Range.

The Himalayas.

6. Large as is the area of the province included within the Himalayas, the Punjab claims a comparatively unimportant part of that vast system. On the east the British district of Kángra, with its outlying cantons of Kulu, Láhul and Spiti, and the Native States of Chamba, Mandi and Suket, together with those in the Simla Hills, all lie within the Himalayas, while connected ranges again cover portions of the Attock and Ráwalpindi districts on the west. These blocks are separated by Kashmir territory, which stretches down to the foot of the mountains from the boundary of Chamba on the east to the Jhelum on the west. Within

the Himalayas lie the hill stations of Simla, Kasauli, Dalhousie, Dharmsála, and in the west Murree, together with other less frequented sanitaria. Cut up as they are by provincial boundaries, it serves no useful purpose to allocate the various Himalayan ranges of the Punjab to the different divisions of the main system recognised by geographers. One of the peaks in Spiti exceeds 23,000 feet, and three others are over 20,000, but, with these exceptions, the peaks included in the province are of, for the Himalayas, fairly moderate altitude. The wealth of forest growth in the Himalayas constitutes the main care of the provincial Forest Department, while the valleys afford remunerative natural grazing to the ever-increasing flocks of sheep and goats which winter in the low hills, retreating before the rains to the higher pastures.

The Siwaliks.

7. The Siwáliks are an insignificant range of low hills which, rising abruptly from the plains, skirt the foot of the Himalayas from the Ganges to the Beas. At the widest parts, as they approach the Sutlej, they are some 10 miles broad. Between them and the Himalayas proper lie a series of fertile valleys known as Dúns; and the hills themselves are clothed with forest timber of some value, save at their western extremity, where they degenerate into little more than sand-hills. The torrents known as chos, which rush down the denuded hills spreading havoc in the fertile plains at their foot, have long been a source of anxiety to the Local Government and have necessitated special legislation for the prevention of further injury.

The Aravalis.

8. The Arávalis, which run through the Gurgaon and the south of the Delhi district, consist of low ranges of insignificant hills covered with brushwood, and are interesting chiefly from a geological point of view, as, with the exception of the isolated peak of Kirána in Shahpur, they form the northernmost extremity of the peninsular rock system, so distinct from the later formations of the Himalayas.

The Suleman chain.

9. The Sulemán mountains run almost due north and south along the western border of the Dera Ghází Khan district for about 200 miles. They consist of several parallel ranges of barren mountains, between which lie valleys that are fertile only by comparison, and are inhabited by Baloch tribes under the political jurisdiction of the Deputy Commissioner of Dera Ghází Khan and mostly connected in organization with the Baloch Chiefs of that district.

The Salt Range.

Mianwali

10. The Salt Range, which derives its name from the immense masses of rock salt found within its limits, stretches from the Jhelum valley on the east to the Indus on the west, and is included in the districts of Attock, Jhelum, Gujrát and Shahpur. Eastward the range consists of three spurs: two parallel with and north of the Jhelum, the more southern of which, the Rotás Range, contains the fort of that name and the hill station of Tilla. The third or Pabbi Range lies south of the river, which it crosses to join the other two at the central peak of Chel. Thence the united range runs westward in two parallel ridges till it culminates in the mountain of Sakesar in the Shahpur district, which has an elevation of 5,010 feet above sea level. Between these lines of hills, and topped by their highest summits, lies an elevated and fertile table-land, picturesquely intersected by ravines and peaks.

The river system.

11. The Himalayas give birth to seven great rivers which traverse the Punjab in a generally southerly direction on their way to the ocean. The hills once fairly left behind, their fall seldom exceeds two feet in the mile, and their course is in consequence exceedingly inconstant, varying, often considerably, from year to year. Thus in the process of time each stream has cut for itself a wide riverain lying well below the level of the surrounding plains, the banks of which mark on either side the extreme limits of the river's excursions. Within these lowlands, over the whole of which the stream has at some time or other flowed, the river winds its way in a narrow and ever-shifting channel. In the winter the stream is comparatively small; but as the mountain snows melt under the approach of the Indian summer, the waters rise and overflow the surrounding country, often to a distance of

several miles on either bank. As the cold returns at the close of the rainy season, the waters recede, leaving wide expanses of fertile loam or less fertile sand, moist for the hand of the cultivator.

These rivers, with the exception of the Jumna, find their way to the Indian Ocean. The watershed between the Indian Ocean and the Bay of Bengal, which forms the backbone of extra-peninsular India, lies in the province a few miles west of the Jumna.

West again of this line lies a peculiar area of closed drainage intermediate between the basins of the Jumna and Sutlej, into which the Márkanda, Sarusti, Ghaggar and other hill streams pour their waters; while the last-named river affords the only outlet, and passing away westwards into Rajputana itself gradually dwindles and finally disappears in the arid wastes of that province. Of the southern border of the Punjab, the whole eastern half, some 275 miles in length, which forms the southern base of this area of closed drainage, is unbroken by any river worthy of the name.

The Indus.

12. The Indus flows along the border of the Attock district, cuts off the Peshávar and Kohát districts of that province from the Punjab, pierces the Salt Range at Kálabágh, and thence traverses the Miánwáli and Dera Ghâzi Khan districts at a distance of from 15 to 30 miles from, and parallel with, the Sulemáns. It receives no affluents of any importance on its right bank, for the scanty rainfall of the Sulemáns is insufficient to feed anything more than hill torrents of intermittent flow. From the east, however, it receives the combined waters of the Jhelum, Chenab, Ravi, Beas and Sutlej, the five great rivers which give the Punjab its name, and which traverse its plains, lying in that order from west to east.

The Jhelum.

13. The Jhelum, rising in Kashmir, flows due south along the eastern boundary of the Rawalpindi and Jhelum districts for a distance of 100 miles, and enters that district at the town of Jhelum, whence it flows south-west for 100 miles as far as Shahpur, and then 70 miles further in a southerly direction till it joins the Chenab 150 miles above its confluence with the Sutlej.

The Chenab.

14. The Chenab takes at once its name and its origin from the twin streams of the Chandra and Bhága, which drain the Himalayan valley of Láhul. Traversing Chamba and south-eastern Kashmir, with a generally western course, it re-enters the Punjab at the middle point of its northern border just below the town of Jammu. Thence it runs, first to the south-west but gradually changing to the south, for some 300 miles to join the Sutlej about 40 miles above the confluence of the latter with the Indus, receiving the waters of the Jhelum at about the midway point of its course in the plains, and those of the Ravi some 50 miles lower down.

The Ravi and Beas.

15. Between the Sutlej and Chenab flow the smaller streams of the Ravi and the Beas. The former rises in Chamba, enters the plains in the district of Gurdáspur, and flows 260 miles to the south-west, to join the Chenab about 90 miles above the confluence of that river with the Sutlej. The latter rises in the Kulu Himalayas, runs westwards through Mandi and Kángra, enters the plains at the north-western extremity of the Hoshiárpur district some 15 miles east of the Ravi and joins the Sutlej after a south-western course of some 70 miles.

The Sutlej.

16. The Sutlej, rising in Chinese Tartary, enters the province in the State of Bashahr, and, flowing through the territories of our hill feudatories, debouches on the plains at Rúpar in the Ambála district. Thence it flows due west for 120 miles as far as Ferozepore, where it receives the waters of the Beas, and thence south-west for some 270 more miles till, joined by the combined Ravi, Chenab and Jhelum, it pours the united waters of the five rivers into the Indus opposite Mithankot, some 70 miles above the Sind border.

The Jumna.

17. The Jumna and its hill tributary, the Tonse, form the greater portion of the eastern boundary of the province, along which they flow almost due north and south for a distance of some 220 miles. Owing to the proximity of the watershed the Jumna receives no tributaries in the plains of the province.

Terms explained.

18. It is as well to explain here certain geographical expressions in constant use in the province. The area in the plains lying between each of the rivers of the Indus system is termed a Doab, and in the order of the rivers from north to south these areas are the Sind Ságar, Jech, Rechna, Bári and Bist or Jullundar Doabs. The high land of the Sind Ságar Doab is the Thal and that of the western Jech, Rechna and Bári Doabs, the Kirána, Sándal and Ganji Bárs, respectively. The eastern Bári Doab in the Gurdáspur, Amritsar and Lahore districts is the Mánja. South of the Sutlej, the country occupied by the Sikhs is the Málwa, and its inhabitants Malwais. The Málwa includes the districts of Ferozepore, Ludhiána and Ambála and the States of Patiala, Jínd, Nábha, Maler Kotla and Kalsia. These States are known as the cis-Sutlej States. ~~The Delhi Territory again is south of the Málwa, and roughly comprises the Rohtak, Delhi and Gurgaon districts and the south of Karnál and Hissar.~~ Hariána is the eastern half of Hissar district, and includes part of Rohtak and of the States of Jínd and Patiala. Bhattiána is the country of the Bhattis in the west of Hissar.

South of the Malwa ~~was~~ the so-called Delhi territory, comprising roughly the Rohtak and Gurgaon districts, the Delhi province and the south of the Karnal and Hissar districts.

The canals.

19. It will be convenient to describe the principal canals of the province in the order of the rivers from which each derives its supplies. The general feature is the comparative unimportance of the irrigation from the right bank of the rivers and it will be noticed that no canal takes out of the river Beas.

Indus Canals.

20. No perennial canal has been constructed as yet from the Indus; but a series of inundation canals take off from the right bank of the river throughout the length of the Dera Gházi Khan district and a second from the left bank in Muzaffargarh district. Both series are a legacy from pre-British rule and are controlled by the State. Considerable improvements have been made, especially in late years, and the number of individual canals has been reduced by linking together successive channels and abandoning the unnecessary multiplication of outlets from the river. The right bank system, the Indus Inundation Canals, now comprises ~~12~~ canals with ~~431~~ miles of main channel and 308 of distributaries and normally irrigates about ~~250,000~~ acres, two-thirds of which is in the kharif harvest. Normally the canals open about the middle of May and run for some five months. The chief channels are the Mánka, the Nur-Dhundi-Sohan, the Dhundi-Kutab, and the Kádra. The left bank system, the Muzaffargarh Inundation Canals, comprises six canals with a total mileage of 1,053 miles, normally irrigating some 280,000 acres. The canals open about the beginning of May and do not, as a rule, close before the beginning of November. The rabi area on these canals is greater than that of the kharif. The chief channels are the Maggi, Puran, Ghuttu and Magassan canals.

11/442/ 225,000/

~~1441~~ ~~360,000~~

Jhelum Canals.

21. The Lower Jhelum Canal, a perennial canal, irrigating the Jech Doab in Shahpur and Jhang districts, was opened in 1901 and now embraces ~~150~~ miles of main channel and branches and ~~1,090~~ of distributaries. The canal takes off from the left bank of the Jhelum at the weir at Mung Rasúl where the river passes through the Pabbi branch of the Salt Range. After a course of 39 miles, in which it gradually approaches the ridge of the Doab, the canal bifurcates, at Fakírián, into two branches – the northern and southern, respectively. It has not yet been found necessary to open the Shahpur Branch, taking off at the 28th mile of the main line, which was designed to assist the country in the Jhelum riverain now irrigated by inundation canals. The irrigation from this canal is still expanding and has reached some 740,000 acres, two-thirds of which are in the rabi harvest.

196/ 992/

Lower down the Jhelum a series of some 22 inundation canals take their supplies from this river in the Shahpur district. Sixteen are owned by private persons and six by Government: one of the latter, Corbynwah, is the only one of the series on the right bank. The total length of the Government canals is some 237 and of the private canals 227 miles. The normal area irrigated is about 60,000 acres on the Government canals and 55,000 on the private ones. The canals run from about the middle of April to the middle of September.

Fears having been entertained that the withdrawal of supplies from the Jhelum for the perennial canals would practically prevent inundation irrigation from these canals, the Shahpur Branch of the Lower Jhelum Canal has been designed to irrigate this area, and in part has been constructed. So far the fears have proved groundless and the branch has not been opened.

Chenab Canals.

22. The Lower Chenab Canal, now a perennial canal irrigating the Lower Rechna Doab in the Gujránwála, Lyallpur and Jhang districts, was opened as an inundation canal in 1887 and as a perennial canal in 1892. The weir is at Khánki, 8 miles below the railway bridge at Wazírabad; and the canal takes off from the left bank of the river. This canal now comprises 427 miles of main canal and branches and 2,278 miles of distributaries. At the 28th mile from Khánki the largest branch, the Gugera, carrying about half the total supply, takes off from the left bank and after a length of 55 miles bifurcates into the Lower Gugera and Burála Branches, 77 and 46 miles long, respectively, irrigating the southern side of the Doab. A few miles above the off-take of the Gugera Branch on the right bank of the main line is the Kot Nikka Branch, with a length of 18 miles. The extreme length of the main line is 40 miles, and it then divides into the Jhang, Rakh and Mian Ali Branches. The Jhang Branch is 62 miles long and bifurcates into the Lower Jhang (38 miles) and Bhowána (7½ miles) Branches irrigating the north side of the Doab. The Rakh and Mian Ali Branches, irrigating the centre, are 55 and 27 miles in length, respectively. The normal area annually irrigated by this enormous system is 2,200,000 acres; considerably more than two-thirds being in the rabi harvest.

Below the junction of the Chenab and Ravi, inundation canals take out of the river on both banks. Those on the right (in Muzaffargarh district), three in number, of which the Talíri is the most important, run from the beginning of May to the beginning of October, have a total length of 217 miles and normally irrigate some 60,000 acres. The canals are owned by the State and are worked administratively with the Muzaffargarh Canals from the Indus already described. The left bank series (in Multan district) is like the Indus Canals, a legacy from former rule. The number of separate canals has been greatly reduced by amalgamations, and there are now 8 canals served by 6 outlets from the river with 269 miles of main canal and branches, and 58 of distributaries. The canals open in the first week of May and close about the end of September: the normal irrigation is about 200,000 acres equally divided between the kharif and rabi harvests.

Ravi Canals.

23. The Upper Bári Doab Canal, now a perennial canal irrigating the Gurdáspur, Lahore and Amritsar districts, was the first canal constructed after the annexation of the Punjab. Undertaken originally as a project for the improvement of the Hasli Canal, constructed about 1633 by Ali Mardán Khan, in the reign of Shah Jahan, an independent alignment was finally adopted and irrigation began in 1860-61. The permanent weir at Mádhopur, at the foot of the hills in Gurdáspur district, was not completed until after 1875. The present canal on the left bank of the river comprises 370 miles of main line and branches including 16 miles of feeders and 1,571 miles of distributaries. The main line at its 31st mile separates into the Main and Kasúr Branches; the former after 25 miles gives off the Lahore Branch, and the latter after 7 miles the Sobraon Branch; the four branches following the crest of the ridges into which the tract is divided by its natural drainages. The normal area of irrigation is about 1,000,000 acres.

Some small inundation canals take out of the left bank of the Ravi in the district of Montgomery. Three of these are managed by the State as the Ravi Inundation Canals. These also include the small Deg Canal of the same district, which receives its supplies from the Deg, a minor tributary on the right bank of the Ravi. The total annual irrigation is only some 22,000 acres.

Lower down in the Multan district the Sidhnai system also affords irrigation from the Ravi. The canals are the Sidhnai and the subsidiary

Koranga, Fázil Shah and Abdul Hakím Canals, of which the Koranga only is on the right bank. As the Ravi is at this point often absolutely dry, the spring crop has to be matured by the aid of wells. The system has a total length of 200 miles, the Sidhnai itself contributing 163. The normal irrigation is some 250,000 acres, more than half being rabi irrigation.

Sutlej Canals

24. The Sirhind Canal is a perennial canal taking off on the left bank of the Sutlej at Rúpar in the Ambála district, where the Sutlej issues from the Siwálik Hills. The canal, besides the British districts of Ludhiána and Ferozepore, irrigates the States of Patiala, Nábha, Jínd, Farídkot and Kalsia, of which the first three contributed to its cost and share the profits. Irrigation was begun in 1883. The main canal and branches have a length of 538 miles, and the distributaries 3,703 miles; 219 of the former and 1,938 of the latter belonging to the States. At the 39th mile the main line divides into the combined branch on the west and the Patiala feeder on the east. The former at once divides into the northern or Abohar Branch (126 miles long) and the southern or Bhatinda Branch (100 miles). The Patiala feeder gives off to the south the Kotla (94 miles), the Ghaggar (54 miles) and the Choa (25 miles) branches, irrigating almost exclusively native territory. The main line, the combined branch, and the Patiala feeder and 48 miles of the Abohar Branch were made navigable, and a special navigation canal was constructed from the Abohar Branch, 47 miles long, to the Sutlej, with a branch 4 miles long to Ferozepore. The irrigation from this canal fluctuates with the rainfall, and in the triennium ending 1910-11 averaged 857,000 acres, a low figure for the canal.

On the right bank of the Sutlej an important series of inundation canals irrigate the lower-lying portions of the Rechna Doab from the confluence of the Beas to the junction of the river with the Chenab. Here too inundation irrigation has existed from very early times. Practically the whole of the canals are controlled by the Canal Department, the only exceptions of importance being the Mehdi Khan and Kitchin Canals in Montgomery. The Government canals are arranged in two groups. The Upper Sutlej Inundation Canals in Lahore and Montgomery districts consisting of the Katora, Khánwah, Upper Sohág and Lower Sohág Canals, with a total mileage of 720 miles and a normal irrigated area of some 330,000 acres, in which the rabi area slightly predominates. These canals open about the middle of May and close soon after the middle of September. The Lower Sutlej Inundation Canals irrigate in the Multan district and comprise the Hájiwah, the Mailsi, the Muhammadwah and the Baháwalwah-Lodhrán Canals, with a total mileage of 720 miles and normal average irrigation of some 260,000 acres. The canals open about the beginning of May and flow until the beginning of November.

On the left bank the Grey Canals irrigate the low-lying country in the north of the Ferozepore district. The canals were constructed and are maintained on the co-operative system and were instituted by Colonel L. J. H. Grey, Deputy Commissioner of the district. Work was begun in 1875-76, and there are now 14 canals irrigating some 175,000 acres. Lower down the river the Baháwalpur State has a vast system of inundation canals taking off from the Sutlej and irrigating some 600,000 acres.

Jumna Canals.

25. The Western Jumna Canal takes off from the right bank of the Jumna at Tajewáli in Ambála district where the river emerges from the hills. The total length of the main canal and branches including the Lower Chautang Canal is 377 miles and of the distributaries 1,764 miles. Irrigation is afforded in Ambála, Karnal, Hissar, Rohtak and Delhi districts and in Patiala and Jínd States. The canal is by far the oldest of the great canals of the province, for as early as 1356 Firoz Shah III utilised the Chautang to conduct water to the royal garden at Hissar and Hánsi. Improvements were effected from time to time, especially by Ali Mardan Khan in 1626. The early alignments were defective and resulted in disastrous water-logging. The present canal is the result of various schemes of remodelling. For the first 14 miles it runs almost entirely in the old west branch of the river up to the regulator at Dádupur. Thirty-eight miles further down the Sirsa Branch takes off at

Indri running west for 115 miles. Some 31 miles further on the canal bifurcates into the Hánsi (47 miles), and Delhi (74 miles) Branches. The Hánsi Branch running west gives off the Butána Branch towards the south. The main line and Delhi Branch are navigable from the head works to Delhi, and exit to the river is provided by the Okhla Navigation Canal. The Hánsi Branch is navigable to where it meets the Southern Punjab Railway near Jínd. The irrigation from this canal is very variable as in years of good rainfall the demand for water is greatly reduced. In the three years ending 1907-08 the acreage averaged over 820,000 acres, and in the following triennium the average fell to short of 594,000 acres, the kharif area slightly preponderating.

The Agra Canal, though mainly a canal of the United Provinces, takes out of the Jumna at Okhla near Delhi and irrigates part of the Delhi and Gurgaon districts.

Ghaggar Canals.

26. In the enclosed drainage between the Sutlej and Jumna lie the Sarusti Canal (Karnál), the Rangoi (Hissar), and the Ghaggar Canals. The latter are two canals, one on either bank of the Ghaggar, taking off at the Otu dam near Sirsa, and were constructed with famine labour in 1896-97. The canals are partly owned by the Bikaner State, and have a total length including distributaries of 120 miles : the area irrigated varies enormously from year to year and averages about 25,000 acres in all.

Canals under construction.

27. From the above description the Upper Jhelum, the Upper Chenab and Lower Bári Doab Canals have been omitted. These canals, though rapidly nearing completion, are still under construction and have not yet taken their place among the physical features of the country. An account of the progress of the work will be found in the notice of irrigation in chapter IV.

Forests.

28. The forests of the plains are of the class known as dry forests, growing in the tracts of scanty rainfall in the west of the province. The trees are the farash (*tamarix articulata*), the karíl (*capparis aphylla*), the jand (*prosopis spicigera*), the van (*salvadora oleoides*) and a few acacias, chiefly kikar (*acacia arabica*). Such forests cover an area of some 3,000 square miles, but are economically of small value. In a few irrigated plantations and along roads and canals the shisham (*dalbergia sissoo*) is of some importance.

The rocky hills of the Salt Range and allied Kala Chitta are in parts covered with an open forest in which the olive (*olea cuspidata*) and phulahi (*acacia modesta*) are found.

Below 3,000 feet the Himalayan forests are composed of scrub and bamboo (*dendrocalamus strictus*). Between 2,500 and 5,000 feet the chil pine (*pinus longifolia*) is the principal tree. Between 5,000 and 8,000 is the zone of the valuable deodar (*cedrus deodara*) which is found with blue pine (*pinus excelsa*), the silver fir (*abies webbiana*), the spruce (*picea morinda*) and various deciduous trees. Above 8,000 feet the deodar and blue pine are absent, but in the higher elevations rhododendron, birch and juniper are found.

The Punjab plains.

29. South of the Himalayas stretch the great plains which constitute by far the larger portion of the province. If we except the Himalayan and Salt Range tracts, the Punjab presents, from the Jumna in the east to the Sulemáns in the west, one vast level, unbroken save by the eroded channels of the rivers, by the insignificant spurs of the Arávali mountain system in the south-eastern corner of the province, and by the low hills of Chiniot in Jhang and Kirána in Shahpur. From the watershed of the Jumna the slope is uniformly westwards towards the Indus basin, broken locally by the successive steps which part the catchment-basins of the Punjab rivers, and which, often almost imperceptible to the eye, always lie close to the right bank of the channel. From the foot of the hills the plain country slopes southwards till it approaches the southern border of the province, when it begins to rise again towards the peninsular area. The combined result of these two slopes is a fall in a south-westerly direction, at right-angles to the mountain ranges and parallel with the general course of the rivers ; but the fall is exceedingly gentle, seldom exceeding two or three feet in the mile.

General character of the soil.

30. The whole of these vast plains are of alluvial formation. Stones are unknown save at the immediate foot of the hills; micaceous river sand is to be found everywhere at varying depths; and the only mineral is kankar, nodular accretions of limestone, and even kankar disappears in the west. The soil is a singularly uniform loam; true clay is almost unknown; and the quality is determined chiefly by the greater or smaller proportion of sand present. In the local hollows and drainage lines the constant deposit of particles of clay has produced a stiff tenacious soil, singularly adapted to rice cultivation; while in the beds of the great rivers and on the wind-fretted watersheds pure sand is commonly found. In parts, and especially where local conditions raise the level of the water-table, the salts natural to the soil have been concentrated on the surface by continuous evaporation, and have covered the ground, often for miles together, with a saline efflorescence known as kallar or reh which is fatal to vegetable life. But where neither reh nor sand is present, the soil is uniformly fertile if only the rainfall be sufficient or means of irrigation be available. Throughout the greater part of the western plains of the Punjab, however, the insufficiency of rainfall is a permanent condition, and until recently the uniform aspect of the country was that of wide steppes of intrinsically fertile soil, locally known as Bárs, useful only as grazing-grounds for herds of camels and cattle. The great Thal which lies between the Jhelum, Chenab and the Indus consists of a series of rolling sand-hills formed by the wind, which run parallel to the great breakwater of the Salt Range, and are separated by valleys in which the original surface is exposed. The construction of canals in the Bár and Thal tracts is, however, entirely changing the face of this part of the country. The depth of water from the surface varies greatly. Throughout the broad riverains and immediately below the hills it ranges between 10 and 30 feet; but the depth increases with the distance from the rivers and the hills, and in many parts of the province rises as high as 150 to 200 feet, while the water, when reached, is too often so brackish as to be harmful to both animal and vegetable life.

CLIMATE.

Rainfall.

31. The Punjab enjoys two well-marked seasons of rainfall. The monsoon season, which brings it by far the greater portion of its annual supply, lasts from the middle of June to the middle or end of September, and upon this fall the autumn crops and spring sowings depend. The winter rains fall early in January, and though sometimes insignificant in amount affect very materially the prospects of the spring harvest. The table in the margin shows the most recent statistics of rainfall for certain selected stations, the figures being corrected averages of all past records which can be depended upon.

Tract.	Station.	Normal rainfall.		
		Monsoon,—June-September.	Cold weather,—December-March.	Annual.
Punjab Hills ...	Simla	47·71	8·79	62·60
	Murree	34·33	11·52	54·83
	Dharmsála	96·59	14·90	116·71
Salt Range ..	Ráwalpindi	20·49	7·89	32·35
Submontane ...	Ambála	25·67	4·32	31·74
	Siálkot	24·30	5·96	33·08
East and North Punjab.	Delhi	22·59	2·50	26·71
	Rohtak	16·40	2·09	19·67
	Sirsa	10·63	1·67	13·30
	Ludhiána	20·55	4·08	26·23
	Lahore	13·31	3·03	17·73
South and West Punjab.	Khusháb	7·76	2·41	11·67
	Lyallpur	9·71	1·89	12·66
	Miánwáli	6·99	2·83	11·49
	Montgomery ...	7·66	1·72	10·05
	Multan	4·55	1·38	6·53

Distribution of rainfall.

32. The rainfall is necessarily heavier in the Himalayas than in any other portion of the province, the vapour-laden air from the south-east and south precipitating its water as it rises to top the great barrier which it finds across its path. The highest average of the province is 116·71 inches recorded in the exceptional case of Dharmsála, and the figures probably nowhere fall below 55 inches (Murree) within the Punjab Himalayas. In the plains the rainfall is greatest in the east of the province, as the Bombay monsoon is exhausted of its vapour in its passage over the great plains

of Sind and Rajputana, while the west winds from Baluchistan pass over an arid tract and leave such moisture as they may have collected on the western slopes of the Sulemáns, so that the Punjab depends for its rain very largely upon the south-east winds from the Bay of Bengal. Thus we find that in the plain country the rainfall decreases rapidly as the distance from the hills increases, and markedly also, though less rapidly, the further we go west. The submontane zone, which skirts the foot of the mountains, enjoys an annual fall ranging from 32 to 36 inches, while in the strip of country lying along the right bank of the Jumna the average lies between 26 and 30 inches and in the portions of the Salt Range tract immediately under the hills the figures are similar. In the eastern plains the annual fall may be said, roughly speaking, to decrease by about one inch for every 10 miles of distance from the hills, and ranges along their southern border between 20 inches in the east (Rohtak) and 13 in the west (Sirsa). But directly we cross the meridian of Lahore, the figures fall to some 10 or 12 inches, while in the neighbourhood of Multan, in the extreme south-west of the province, the yearly average is only 5 to 6 inches. The extension of canal irrigation over the Western Punjab is undoubtedly having the effect of increasing the rainfall in this part of the province and may have unforeseen results on the rainfall of the country. Moreover, the great rivers have a slight local effect in increasing the amount of precipitation in their immediate neighbourhood; and this influence is of more importance than would appear from the bare statistics, as the addition thus made to the total annual fall is distributed in the form of more or less periodical showers which often bring timely moisture to the crops.

Temperature.

33. Owing to its geographical position, to its scanty rainfall and cloudless skies, and perhaps to the wide expanse of untilled plains, the climate of the Punjab presents greater extremes of both heat and cold than does that of any other part of India. The extreme heat of the summer months begins to moderate about the middle of September; and from the beginning of October, though the days are still hot, the nights are fairly cool. From that time the temperature sinks lower and lower, till the minimum is reached with the fall of the winter rains in the early part of January, when sharp frosts are common, and water exposed at night with due precautions is frozen in all parts of the province. The temperature then rises again slowly but steadily till the end of March. With April the hot weather proper may be said to begin. For the next three months the Punjab acts as the exhaust-chamber of India, and creates that monsoon of which it enjoys so small a share. Within the hills the seasons and their changes are very similar, though of course the heat is much more moderate and the cold much more severe. From the middle of December to the middle of January snow-storms are heavy and frequent throughout the Himalayas proper; while even in the height of summer the thermometer seldom rises above 90° in the shade.

Details of temperature and winds.

34. The following figures show some details of temperature and of the direction of the prevailing winds:—

Stations.	Temperature in 1911.		Record temperature.		Temperature of day whose normal is		Prevailing winds.		
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	January to May.	June to September.	October to December.
Simla	81·8	17·1	94·4	17·1	76·3	34·0	...	...	...
Murree	90·1	20·7	102·0	12·0	82·5	32·9	S. E.	N.	S. E.
Rawalpindi	113·4	32·4	118·0	23·9	103·5	36·3	N.	N.	N.
Ambála	113·5	35·9	115·8	30·7	106·5	42·2	N. W.	S. E.	N.
Siálkot	112·0	35·5	121·3	28·5	107·6	41·3	N.	E.	E.
Delhi	113·0	40·2	118·0	32·5	107·1	47·3	W.	W.	W.
Sirsa	116·3	34·5	121·1	29·0	109·3	41·4	W.	S. W.	N. E.
Ludhiána	114·5	39·5	119·0	24·0	107·6	43·2	N. E.	S. E.	W. & N. W.
Lahore	116·9	36·2	120·3	29·2	109·7	39·4	N. W.	S. E.	E.
Khusháb	119·4	36·4	120·4	25·0	108·9	40·4	N. E.	E.	E.
Montgomery	119·4	33·5	121·9	27·5	112·2	40·5	N. E.	S. W.	E.
Multan	118·3	38·5	121·0	29·0	109·1	42·4	N.	S. W.	N.

It will be noticed that the lowest temperature observed at Simla in 1911 constitutes a record for that station. In the plains the coldest days occur in the last

week of December or first week in January: in the hills the coldest weather is exactly a month later. The greatest heat is recorded both in the hills and plains in the last days of May and the beginning of June.

NATURAL DIVISIONS.

Natural divisions of the province.

35. Thus the Punjab may be divided, in accordance with its physical features, into five natural divisions. The Himalayan region and the corner cut off by the Salt Range are special tracts distinct in all their characteristics from the plain country of the province. The submontane zone is the connecting link between the two. Finally, the plains are divided by a meridian passing through Lahore into two very dissimilar tracts which may be called, respectively, the eastern and the western plains. One of the most striking features of the province is the strong contrast which these two tracts present, and the comparative suddenness with which the transition takes place as the intangible line which separates the one from the other is crossed.

The Himalayan ract.

36. The Himalayan tract includes an area of some 22,000 square miles, much of which is wholly uninhabited, and a scanty population of about 1,725,000 souls living scattered about the remaining area in tiny hamlets perched on the hill-sides or nestling in the valleys, each surrounded by its small patches of terraced cultivation, irrigated from the streams which run down every gulley, or fertilised by the abundant rainfall of the hills. The nature of the country prevents the growth of large towns; trade is confined to the little that crosses the high passes which lead into Tibet; and the people are almost wholly rural, supplementing the yield of their fields by the produce of numerous flocks of sheep and goats, and by rude home-manufactures with which they occupy themselves during the long winter evenings. They keep very much to themselves, migration being almost confined to the neighbouring mountains and low hills.

The Salt Range tract.

37. The Salt Range tract includes the districts of Attock, Rawalpindi and Jhelum, and a small portion of the Shahpur district. Its physical configuration is so broken and confused that it is impossible without going into great detail to separate it into parts, each of which shall be even approximately homogenous. The mountainous tracts of the Murree and Kahúta tahsils of the Rawalpindi district approximate closely in characteristics to the Himalayan tract and here there is an ample rainfall. Elsewhere except immediately under the hills, the rainfall, while quite sufficient in ordinary years, leaves little margin as protection against distress in unfavourable seasons, while irrigation is almost unknown. The tract has an area of about 9,000 square miles and a population of some 1,575,000 souls. The town of Rawalpindi owes much of its importance to the garison stationed there: but its population exclusive of cantonments is 46,642.

The submontane tract.

38. Skirting the base of the hills, and including the low outlying range of the Siwáliks, runs the narrow submontane zone, with an average breadth of some 25 to 30 miles measured from the foot of the Himalayas proper. This tract, secure in an ample rainfall, and traversed by streams from the neighbouring hills, has an area of some 10,000 square miles, comprises some of the most fertile and thickly-peopled portions of the province, and is inhabited by a population of about 4,175,000 souls, who occupy an intermediate position in regard of race, religion and language between the peoples of the hills and of the plains. The tract has only one large town, Siálkot, which, exclusive of cantonments, has a population of 48,595 souls; its trade and manufactures are insignificant, and its population is almost entirely agricultural, and in the low hills pastoral.

The eastern plains.

39. Turning to the plain portions of the Punjab, we find that east of Lahore the rainfall is everywhere so far sufficient that cultivation is possible without irrigation in fairly favourable seasons; but over the greater portion of the area the margin is so slight that, save where the crops are protected by artificial irrigation, any material reduction in the supply entails distress, if not actual famine. The eastern plains cover an area of some 36,000 square miles

with a population of about 10,600,000, and may be roughly divided into four separate regions. A broad strip parallel to the submontane zone partakes in a lower degree of its ample rainfall. It is traversed by the Upper Sutlej, the Beas, the Ravi, the Bári Doáb Canal, and many smaller streams, which bring down with them and deposit fertilizing loam from the lower hills; irrigation from wells is everywhere easy; and the tract is but little inferior in fertility, security of produce and populousness to the submontane zone itself. Its width varies from 20 to 30 miles and its area is some 8,800 square miles. The next most fertile strip is that running along the eastern border of the province, parallel to the river Jumna. It enjoys a fair average rainfall; it includes the low riverain tract along the Jumna itself, where well irrigation is easy; the Sarusti and its tributaries inundate a considerable area, and much of it is watered by the Agra and Western Jumna Canals, so that it is for the most part well protected against famine. It has an average breadth of some 35 or 40 miles and its area is about 5,000 square miles. Along the southern border of the eastern plains lie the tracts known as Hariána and Bhattiána, which constitute the most unfertile portion of the area under consideration. A large part of this tract skirts the great Rajputana desert; the soil is often inferior; the rainfall always scanty and precarious; while, except in the south-eastern corner, where alone wells can be profitably worked, irrigation was till recently unknown, save where the Western Jumna Canal enters Hissar and the Sutlej borders the Sirsa district. Its width is from 40 to 50 miles; its area about 11,900 square miles. This, and the central portion, next to be described, together constitute the great area of closed drainage already mentioned. This is the part of the Punjab which has suffered most severely in famine years, but much of it has now been protected by the construction of the Sirhind Canal, and the Sirsa Branch of the Western Jumna Canal. The remaining or great central portion of the tract includes the larger part of the great Sikh States. It occupies an intermediate position in respect of fertility between the two preceding tracts, the rainfall generally being highest and the soil best to the east, west and north, in the direction of the Jumna, the Sutlej and the hills, and lowest and worst in the centre and south; while to north-east the Ghaggar system of hill streams inundates a certain area, and well irrigation is practised along the Sutlej and the northern border. As noted above, the opening of the Sirhind Canal has greatly altered the agricultural conditions of this part of the province.

Within the eastern plains lie the three great cities of Delhi, Amritsar and Lahore, besides a large proportion of the larger towns; and the population is, by comparison with that of the Western Punjab, largely urban. Trade and manufactures flourish, and the greater part of the culturable area is under the plough.

The western plains.

40. The great plains lying to the west of the Lahore meridian present a striking contrast with those to the east of that line. They form the common terminus of the two Indian monsoons, which have exhausted themselves of their vapour before they reach their goal; and the rainfall, heaviest in the north and east and decreasing towards the west and south, is everywhere so scanty that cultivation is only possible with the aid of artificial irrigation or upon the low-lying river banks left moist by the retreating floods. But in this very circumstance they find their security against famine or distress from drought, for their cultivation is almost independent of rain, a failure of which means nothing worse than a scarcity of grass, in itself a sufficiently serious calamity. Rain is, of course, needed here as elsewhere; but its absence means only a diminished yield, and not, as in portions of the eastern plains, no yield at all; and so little is sufficient, if the fall comes at the right time, and absolute drought occurs so seldom, that the crops may be said never to fail from this cause.

The western plains cover an area of 59,000 square miles with a population of 6,100,000 or about a quarter of the population of the province. They comprise four different tracts of country. Throughout their length they are traversed by five great rivers, the Sutlej, Ravi, Chenab, Jhelum

and Indus, and along either side of each of these runs at a distance of a few miles a more or less distinctly marked bank which defines the excursions of the river as it has within recent times shifted from side to side in its course. The banks include between them strips of low-lying land which are periodically inundated by the rising floods of the summer or in which the nearness of sub-soil water makes well irrigation easy. Inundation canals already described have been carried from these rivers across the zone of well irrigation into the higher land beyond and render cultivation possible along their courses. The prosperity of this tract, in which the older cultivation of the western plains almost wholly lies, depends upon the rainfall in the mountain catchment areas of the rivers, as insufficient floods may seriously affect the working of the inundation canals. Outside the river valleys lie the high and arid uplands. Of these the Thal or sandy desert of the Sind Sagar Doab and the huge desert area of Baháwalpur stand apart. Lying higher and of older formation than the Bárs of the Jech, Rechna and Bári Doabs the action of the wind has converted a level plain of fertile land into a succession of rolling dunes of sand separated by long troughs of stiffer culturable soil. Covered by a scanty growth of stunted desert trees the country affords precarious grazing, especially for camels, and in the long hollows wells are sunk and the drainage collected in the depressions provides moisture for a restricted cultivation. Though some of the finest wheat in the world is grown on the wells of the western Thal the cultivated area is wholly insignificant. The crowning triumph of irrigation in Northern India will be attained when the waters of the Indus are conducted into the desert of the Sind Ságar Doab: but long before this the projected canal from the Sutlej will convert the Baháwalpur Cholistán into a prosperous and fertile country. Our third division consists of the disappearing area of the unirrigated Bár land. Once embracing the high upland of the Jech, Rechna and Bári Doabs, the only unirrigated Bár to-day is the Ganji Bár of the Montgomery and Multan districts, most of which will shortly be commanded by the Lower Bári Doab Canal now approaching completion. These Bárs are similar in formation. Huge expanses of fertile loam, whose level area is only broken by the shallow troughs in which once flowed the many separate streams now collected in the deep-cut river valleys of the present day: the depth to spring level so deep that well irrigation is impracticable and drinking water wells a prized possession: the Bárs were covered with a growth, in places dense, of desert trees and after rain with a carpet of grass affording forage for herds of camels, cattle, sheep and goats and a livelihood for the nomad tribes who made the Bár their home. The only cultivation the country afforded was a precarious crop grown in the depressions to which the drainage of the higher country round was carefully conducted. Practically uninhabited, for the Bár nomads were insignificant in numbers, the uplands contained no settled villages and were in their original state so worthless that free offers of land were refused. Such still is the Ganji Bár to-day.

The Sándal Bár of the Rechna Doab and the smaller Kirána Bár of the Jech Doab present a striking contrast. The Lower Chenab and Lower Jhelum Canals have brought to the uplands the water which alone was required to enable the fertile soil to yield its ungrudging increase. To each plot of the chess board into which the Bárs have been divided the water is brought first in the canal, then in the distributary and finally in the water-course: so that to-day the country supports in unparalleled prosperity a population which now numbers a hundred to every one of its former poverty-stricken denizens: and the land once refused as a gift now sells with ease at £15 an acre. To carry off to the port of export the surplus produce of this fortunate region three lines of railway have been constructed, and so great is the traffic that from their point of convergence in the west a double track to Karáchi has had to be provided. As entrepots of trade towns have sprung up in all directions, the profits gained in which are so great that building sites readily sell at the rate of £1,000 an acre. The colonies now enable the western plains to challenge the title of the eastern plains as the most fertile, wealthy and populous portions of the province, Multan is still numerically the only town of first class importance, and the

population is still markedly rural. The population of Lyallpur (19,578) and Gojra (5,417) in the Chenab colony and Sargodha (8,849) in the Jhelum colony by no means reflects the comparative importance of these infant towns.

Chief Staples.

Wheat.

41. The development of canals in the past ten or fifteen years has led to a great expansion of the wheat area which now, in an ordinary year, occupies over $8\frac{3}{4}$ millions of acres or approximately one-third of the annual area harvested in the province. Except in the Delhi division and in Ferozepore, wheat is everywhere the principal crop grown, and in several of the northern districts accounts for as much as half the annual harvested area. The estimated weight of the produce annually raised is some three million tons valued at present Punjab prices at approximately £20 millions sterling. More than half the area under wheat is irrigated, and this fact steadies the fluctuations in area and outturn consequent on the caprices of season. It is estimated that on an average of years about one-quarter of the wheat raised in the province is exported beyond its boundaries.

Gram.

42. Next to wheat both in area and value comes gram (*cicer arietinum*) which, however, is mainly sown on unirrigated land, and is accordingly subject to violent fluctuations both of area and outturn. In favourable years the chief gram-producing districts are Hissar and Ferozepore which, with the remaining districts of the Delhi division, raise half the gram crop of the province. Though grown throughout the province gram is naturally less popular in the areas of deficient rainfall of the North and West Punjab. On the average it is probable that 4 million acres are sown with this crop each year, the produce raised being estimated at 1 million tons and valued at some £5 millions sterling. Gram is exported but not to any considerable extent.

Barley.

43. Barley is a crop which is gaining ground in the province, though its present area is only about a million acres. It is grown chiefly in Hissar, Gurgaon and Ferozepore, and is often sown mixed with wheat and gram as it matures even if the rainfall is not sufficient for the wheat. The demand for the Indian breweries is extensive, and there is some hope that the English brewers too may before long adopt Indian barley. The weight of the annual produce is estimated at 300,000 tons valued at about £1 million.

Rice, maize, millets.

44. The autumn staple cereals are rice, great millet (*jowár=sorghum vulgare*), spiked millet (*bájra=pennisetum typhoideum*) and maize. These are all grown for food and do not figure largely in the export tables. Speaking generally, maize and rice are grown in the montane and sub-montane tracts to the complete or practical exclusion of the millets, which elsewhere are the more important crops. The relative areas of jowár and bájra differ greatly even in similar tracts, but bájra is on the whole most favoured in the Rawalpindi and Delhi divisions and jowár elsewhere. Jowár is the cheapest of these cereals. The ordinary areas of the crops may be taken as rice 700,000 acres, jowár 1,200,000 acres, bájra 2,400,000 acres, maize 1,200,000 acres; but the jowár and bájra areas vary greatly from year to year. The weight and value of the produce grown on these areas may be taken as—rice 350,000 tons=£$1\frac{3}{4}$ millions, jowár 250,000 tons=£1 million, bájra 475,000 tons=£$2\frac{3}{4}$ millions, and maize 400,000 tons=£2 millions. Jowár is, however, largely grown for fodder, and should in that case be recorded as a fodder crop (chari). Difficulty often arises in observing the distinction in practice.

Oilseeds.

45. The principal oilseeds are rape (sarson=*brassica campestris*), toria, a variety of the same, and sesamum or til. A little linseed also is grown. The area under oilseeds is about 1,300,000 acres annually, rape occupying half and toria a further third of the total: rape is grown throughout the province, but in the tracts of the Central Punjab to which irrigation has in recent years been extended toria is by far the more popular crop to the practical exclusion of rape. Toria is sown in August when canal water is still plentiful before the river floods subside. It is a fast-growing crop being cut in November or December, and the cultivator depends either on a lucky fall of rain or the

prolongation of full supplies in the canal to mature the large area sown. He, of course, not seldom fails, but the profits of success are enormous. and the popularity of the crop is spreading among more conservative communities. It is estimated that 190,000 tons of oilseeds are raised annually in the province with a sterling value of £1½ millions. Considerably more than half the total annual produce is exported from the province.

Cotton.

46. Cotton is grown generally throughout the province, but principally in the Multan and Lahore divisions. The amount grown in the Jullundar and unirrigated parts of Rawalpindi divisions is small. Cotton is a delicate plant and requires moisture regularly; for this reason it is seldom grown except as an irrigated crop. The ravages in recent years of the boll-worm have greatly affected the popularity of cotton, though the high prices now obtaining make it a tempting crop in spite of the undoubted risks. The cotton grown is of the short stapled variety known as "Bengals" of which a hundred pounds of uncleaned cotton gives about 30 lbs. of clean lint. About 1,200,000 acres are placed under cotton annually. The weight of uncleaned cotton raised on this area amounts to some 250,000 tons, valued at about £ 2½ millions. The value of raw cotton ordinarily exported from the province may be taken at £1½ millions.

Sugarcane.

47. Sugarcane is an important and valuable crop in Rohtak, Delhi Karnál, Jullundar, Hoshiárpur, Amritsar, Gurdáspur, Gujránwála and Lyallpur districts. A large additional area has been placed under this crop since the opening of the Lower Chenab Canal, but practically none is grown on the Lower Jhelum Canal, and the total sugarcane area is fairly stationary at 400,000 acres, of which Gurdáspur alone contributes some 61,000. The annual produce is estimated at 278,000 tons of gur valued at £2⅓ millions, but the province imports some £2 millions worth of sugar annually which might no doubt be produced in the province itself were it not that other crops are more remunerative.

Live-stock.

48. In a country of which the population is preponderatingly agricultural a considerable proportion of the wealth of the people lies in its live-stock. The latest census gives the following figures: Bulls and bullocks 4,248,493, cows 3,386,950, male buffaloes 624,861, cow-buffaloes 2,241,223, bovine young stock 3,821,389, sheep 4,591,591, goats 4,253,194, horses and ponies, 360,502, mules 38,929, donkeys 583,617, camels 270,522. Increased attention has been paid in late years to this subject since the transfer of the chief horse-breeding arrangements to the Army Remount Department and the reorganisation of the Civil Veterinary Department. As regards cattle, sheep, and goats information has been collected and published in a monograph on "Cattle and Dairying in the Punjab."* Briefly speaking the breeding and exporting tracts for draught cattle are (*i*) Hariána and Bhattiana in the south, (*ii*) the Pothwar-Dhanni tract of Jhelum, Ráwalpindi and Attock in the north, and (*iii*) the extreme south-west of the province. The Málwa and district of Lyallpur are self-supporting, but the rest of the province depends on these breeding tracts to supplement the local cattle supply. The best breeds of milch cows are again the Hariána animals and the Sáhíwál (Montgomery) cows. Except for some export from Hariána to the United Provinces the cattle and dairy trades are confined to the province. Reliable figures are impossible to obtain, but it is certain that large profits are derived by farmers from stock raising in the breeding tracts and by the sale of ghi throughout the province. As an example Rs. 3½ lakhs worth of ghi is annually exported by rail alone from Karnál district. The lucrative trade in cattle and ghi supports a large class of middlemen, chiefly of the distinctively trading classes.

Wool.

49. Sheep are important in the south-west where wool is a staple product and again in the pastures of Kángra and Kulu. The finest wool is said to be that of Hissar. Wool, however, is largely produced throughout the plains and is woven and felted into blankets and rugs. A large amount of wool is

*By A. M. Stow, I.C.S., *Civil & Military Gazette* Press, Lahore, 1910; also see "Fodder Crops of the Punjab," Sir J. M. Douie, 1912.

accordingly used locally, especially at the power looms of the Egerton Woollen Mills at Dháriwál in the district of Gurdáspur, and the indigenous industry has suffered little apparently from foreign imports which indeed are inconsiderable. On the other hand, a considerable though fluctuating export trade in wool is carried on, the chief centres being Multán, Amritsar, Fázilka and Abohar (Ferozepore), Ráwalpindi and Gujar Khan (Ráwalpindi) and Básal (Attock). The value of wool annually exported amounts to between three and four hundred thousand pounds.

Hides and skins.

50. The production of hides and skins in a community so completely agricultural as that of the Punjab is normally very considerable, and in times of fodder scarcity or famine becomes enormous. A large amount of the material is used locally, but the value of the annual exports is not less than £500,000.

2. HISTORICAL SUMMARY.

1803. Early history.

51. The administration of the territory now included in the Punjab begins with the measures necessitated by the treaty of Anjangaon, dated December 30th, 1803, between the British Government and Daulat Rao Sindhia, by which the latter ceded to the British all his "forts, territories, rights and interests" in the countries north of the Jumna. The country in question was at the time in a state of anarchy. With the decay of the Moghal power the area between the Jumna and the Sutlej had become a prey to three contending forces. On the west in Bhattiána the Bhattis, under their leaders Bahádur Khan of Fatahabad and Zábita Khan of Sirsa, were able to maintain some semblance of rule. But in the south the more peaceable inhabitants had been overrun by the Mahrattas and their adherents, who ruled each for himself such amount of territory as his sword could control. On the Sutlej side a similar state of affairs was created by irruptions of Sikhs from the north. The result was constant turmoil; rulers rose and fell; states appeared and disappeared; while the people of the country were prostrate before the exactions of the invaders against whom they could offer no resistance.

Policy adopted.

52. Upon the defeat of the Mahrattas the policy adopted by the British Government was to make the Jumna the limit of British territory and to interpose between that border and the northern powers a buffer of semi-independent states in the ceded territory. A Resident was appointed in Delhi to keep the peace of the border land, interfering as little as possible in the administration of the country. The existing rulers were maintained in their possessions, and, if in any case no claimant could be found, the estate was made over by grant, and assignment or in farm to some deserving soldier or neighbouring chief. The still existing Native States of Pataudi, Dujána and Loháru date from this period. Except in the immediate vicinity of Delhi itself direct administration was sedulously avoided.

1808. Relation with cis-Sutlej Sikhs.

53. The policy of buffer States was seriously endangered by the encroachments of Maharaja Ranjit Singh south of the Sutlej, and the British Government viewed with apprehension the advance of the powerful Lahore ruler towards the British frontier. Some of the Sikh invaders in the country south of the Sutlej had before 1803 become feudatories of Sindhia, and they naturally came under the British suzerainty; but the majority were still outside the scope of British superintendence. An appeal to the British by these cis-Sutlej Chiefs in 1808 was gladly entertained, and by the treaty of Amritsar, signed in April 1809, Ranjit Singh resigned all design upon the States cis-Sutlej, which the British Government undertook to keep intact under its protection, reserving solely the right to escheats.

1810. Reduction of Bhattiana.

54. The raids of the Bhatti chiefs from the west, where they still maintained their independence, had by 1810 become intolerable, and in that year Bahádur Khan was defeated and Fatahabad annexed; the defeat of Zábita

NOTE.—The administration report for 1892-93 contained a summary of the history of the Punjab under Moghal and Sikh rule and of the incidents of the mutiny which was reproduced in the report for 1901-02. It has now been omitted as the events narrated are matters of general history.

Khan following in 1818. No effort was made to administer the country which was practically left to itself, and encroachments by the Chief of Patiala subsequently became the subject of a long protracted dispute.

55. The defeat of the Gurkhas by General Ochterlony in 1815 brought under British control the hill area south of the Sutlej, which they had overrun. The policy adopted was the same as that adopted in the plains. The hill territories were made over to such chiefs as could substantiate any claim to having ruled in the hills before the advent of the Gurkhas, and the states so established were placed under an Assistant to the Delhi Resident stationed at Subáthu. In the hills this system proved permanent, and the Simla Hill States remain to-day substantially as originally established. **1815. Advance in the hills.**

56. In the plains it was different. The chiefs established were themselves conquerors and of no long standing. It soon became apparent that the policy adopted must fail. The turbulence of the many chieftains and the impossibility of stopping the kaleidoscope at the point it had reached in 1803 made it hopeless to attempt to secure a settled administration on the desired lines. The treaty with the cis-Sutlej Sikhs was faithfully observed, though it involved the recognition as rulers of chiefs of individual villages or even of confederacies of Sikh horsemen holding villages in shares amounting in some cases to no more than one-twentieth of a single village, and only escheats came under direct administration. In the Delhi Territory confiscations for mismanagement and resumptions on the death of the original grantee very gradually brought to an end the unsatisfactory conditions prevailing. A summary settlement of the land revenue was carried out in each such case and law and order introduced. **Failure of policy.**

57. Direct control in the Delhi Territory was exercised at first by the Resident at Delhi, but the constantly increasing area to be administered led in 1819 to the formation of four "divisions" under Principal Assistant Commissioners, who exercised executive control under the orders of the Resident. These four divisions were the beginnings of the present districts of Delhi, Rohtak, Gurgaon and Hissar. Pánipat (now Karnál) was separately established in 1824, and in 1832 these five districts were brought under the Regulations and included in the North-Western Provinces, with which they remained for 26 years. One of the results of this development of the administration was the closer attention paid to affairs in Bhattiána. After a long boundary contention with Patiála the British Government asserted its supremacy over the country upon which encroachment had been made, and a separate district of Bhattiána was established about 1837, subsequently becoming part of the later Sirsa district. These six districts were grouped for administrative purposes into the Delhi and Hissar divisions and were in due course put under regular settlement. They suffered in the famines of 1833-34 and again in 1837-38, especially the districts of Rohtak and Hissar. In the latter visitation relief works were for the first time opened for the able-bodied. **1819. Administrative changes.**

58. Meanwhile political control over the Sikh States was exercised until 1840 by the British representative at Delhi and his Assistants, who were also responsible for the administration of the territories which lapsed in default of heirs. In 1840 an Agent to the Governor-General was appointed for the North-West Frontier with head-quarters at Ambála, and in 1842 the administration of the lapsed territories also was transferred to him. At the end of 1846 in consequence of their misconduct during the first Sikh War the most flagrant offenders among the defaulting States were punished by confiscation and the remainder were deprived of their police jurisdiction and of their right to levy customs and transit dues, while the obligation to furnish troops was commuted for a money payment. Nine Chiefs only were exempted from this arrangement and allowed to retain full powers. Of these, Patiála, Nábha, Jínd, Máler Kotla, Farídkot and Kalsía still survive, but Diálgarh lapsed in 1852, Raikot in 1854, and Mamdot was annexed in 1855 in consequence of the misconduct of the Nawab. The head-quarters of the Agent to the Governor-General were transferred to Lahore, where he was entrusted with the duty of reorganising the shattered government of the Punjab, and a Commissioner of **1840. Cis-Sutlej.** **1846.**

the cis-Sutlej States was appointed at Ambála. Districts were formed at the same time at Thánesar, Ludhiána, Ferozepore and Ambála out of the lapsed and confiscated territories.

1846. Advance to the Beas.

59. A further consequence of the 1st Sikh War was the cession by the Lahore Government of the area between the Sutlej and Beas in the plains and of Chamba and Kashmir in the hills. No idea of buffer states now remained. The ceded territories became the districts of Jullundar, Hoshiárpur and Kángra under a Commissioner of the trans-Sutlej States at Jullundar, while the Chief of Kapúrthala was maintained in independent possession of his estates in the newly ceded area. In the hills their possessions were secured to the Chiefs of Mandi and Suket. Chamba, which was at first given to Kashmir, was declared independent in 1848. The Kángra State had for some twenty years been in the possession of the Sikhs and in consequence became, as stated, a British district. The Commissioners, cis and trans-Sutlej, were for two years placed directly under the Supreme Government, but in 1848 became subordinate to the Resident at Lahore.

1849. Final absorption of cis-Sutlej districts.

60. It was speedily found that the position of the states, which had been deprived of police jurisdiction, was an impossible one, and in 1849, after the conquest of the Punjab, the British Government assumed complete control, except in the case of the States which had been allowed to retain full powers. The villages were shortly afterwards brought under settlement, and the revenues assessed in cash. The position of the chiefs and of the communities of horsemen (known as pattidars) now became that of ordinary jágirdars or assignees of the revenue demand.

1849. Annexation.

61. On the conclusion of the 2nd Sikh War the annexation of the Punjab was proclaimed on March 29th, 1849, and a Board of Administration appointed consisting of three members, who, although acting jointly in matters of importance, took each a special charge of one of the functions of the Board—political, revenue and judicial. The province, which included the Commissionerships, cis and trans-Sutlej, was divided into seven divisions in charge of Commissioners, with head-quarters at Ambála, Jullundar, Amritsar, Lahore, Multán, Ráwalpindi and Leiah (Deraját), embracing 24 districts*. The three additional districts of Peshávar, Kohát and Hazára, at first administered under the direct control of the Board, were formed into an eighth division about the year 1850. The districts were placed in charge of Deputy Commissioners, who were provided with a staff of covenanted Assistant Commissioners and uncovenanted Extra Assistant Commissioners. The districts again were divided into tahsils or sub-divisions for the collection of revenue, and police circles. The Board was entrusted with plenary authority to control and supervise all departments. The Commissioners were Superintendents of revenue and police, and exercised the civil appellate and the criminal original powers of a Sessions Judge. The Deputy Commissioners were given subordinate civil, criminal and fiscal powers, combining in one person the different aspects of the administration, and thereby much increasing its vigour.

Laws framed and other measures introduced.

62. The first object of attention was to place the revenue system on a sound basis. Settlements made during the regency of the Resident were upheld as temporary measures, and in tracts that had not been previously settled summary settlements to last five years were made, pending the introduction of regular settlements which would endure for from fifteen to thirty years. In the civil courts the rules current in the Sutlej divisions were at first observed, as they were calculated to ensure substantial justice unfettered by technicalities. Subsequently a Punjab Code, embodying much of the customary civil law of the province, was prepared. In criminal law the code adopted during the period of the Residency was maintained. One of the principal duties of the new Government was to develop the resources of the country, to make canals, and, chief of all, to create roads; the latter did not exist, from a civilized

---

* These districts were Thánesar, Ambála, Simla, Kángra, Hoshiárpur, Jullundar, Ludhiána, Ferozepore, Pákpattan (1852 Gugera, 1865 Montgomery), Lahore, Amritsar, Batála (1852 Gurdáspur), Wazírabad (1852 Gujránwála), Gujrát, Shahpur, Jhelum, Ráwalpindi, Leiah (1861, Bannu), Dera Ismail Khan, Jhang, Multán, Khángarh (1861 Muzaffargarh), Dera Ghází Khan and in 1852 Siálkot.

point of view, in the country when it was taken over. The principal and earliest work of this kind that was undertaken was the construction of the Grand Trunk Road to connect Pesháwar with Lahore. The Bári Doab Canal was commenced, and many other works of public utility were either projected or undertaken. A strong body of military police under European military officers, comprising six regiments of foot and twenty-six troops of horse, in all 8,100 strong, was raised in aid of the civil police, the establishment of which was of the strength of 6,900 men of all grades. The military police furnished guards and patrolled the country, and acted in the prevention of crime and apprehension of offenders, while the civil police, who were under the charge of the civil officers, were entrusted with the detection and prosecution of criminals, and the duties of watch and ward in towns and villages. The general disarmament of the part of the province lying between the Indus and the Sutlej was carried out. (The cis-Sutlej divisions and the territory round Delhi were disarmed at a later date.) In all 119,700 arms of all descriptions were seized or surrendered. The sale, possession or manufacture of arms and ammunition, except in the trans-Indus tracts, was prohibited. In the frontier districts it was of course necessary to leave the people armed, in order to enable them to cope with their marauding neighbours of independent territory. With regard to these, special military measures were undertaken. The forts at the principal stations were repaired or rebuilt upon more scientific principles, a chain of fortified border posts was dotted along the whole length of the border line, parallel to which a military road was made with cross branches connecting it with the internal net-work of communications being established in the province. A special force, the Punjab Frontier Force, under the direct orders of the Board, was raised for service, normally on the frontier, and only in special cases elsewhere. It consisted, at first, of five regiments of cavalry, the Corps of Guides, five regiments of infantry, three light field batteries, two garrison batteries, two companies of sappers and miners, and the Sind Camel Corps. Mule batteries were afterwards entertained in the Frontier Force, in place of the field batteries; the sappers and miners were withdrawn, and a Gurkha regiment was added to the force. A few years after annexation the Camel Corps was changed into a regiment of infantry. The later history of the Frontier Force pertains to the administration of the North-West Frontier Province.

Further improvements carried out.

63. The work of reclaiming the country, of civilizing its people, and of developing its resources was carried on without interruption for the next seven years. The Punjab became gradually covered with the institutions of modern civilization; roads were made in every direction; canals were projected or constructed; schools, dispensaries and jails were erected in every district; a uniform code of civil and criminal law and procedure was adopted; the currency was reformed; taxation on trade was removed; and a system of regular settlements was commenced, which was designed ultimately to embrace the whole province, and in the course of which the *status* of all classes connected with land, the shares of the produce one class could demand from the other, and the portion which was due to Government, were accurately defined and recorded.

1853. Sir John Lawrence, Chief Commissioner.

64. In 1853 the Board of Administration was abolished, and in its place Sir John Lawrence was appointed the first Chief Commissioner, as the head of the local executive administration, with control over the Punjab Frontier Force. Subordinate to him were appointed a Judicial and a Financial Commissioner, who were the chief authorities in the Judicial and Revenue Departments, respectively. The Judicial Commissioner was also head of the police: he supervised educational operations and superintended the control of Local and Municipal Funds. Among other measures, the following are principally noticeable as having been carried out during 1853:—The addition of another battalion to the military police, raising it to a strength of 7 battalions of infantry and 27 troops of horse; the virtual extermination of thaggi, and the employment as organized bodies of labourers of the Mazbi Sikhs, among whom this crime was prevalent; the introduction, or rather re-imposition, of

octroi duties in all towns and large villages in lieu of a house-tax with the full preference of the inhabitants; a determined effort to put down female infanticide which found expression at a great assembly of all the leading Chiefs and native gentlemen of the province at Amritsar, when rules with a view to diminishing marriage expenses were accepted by those present and promulgated for general observance; and, lastly, the introduction of tea cultivation in the Kángra district, and extensive operations in arboriculture, nearly a million trees being planted in two districts alone. Including all the necessarily large expenditure consequent upon the annexation of a province in the condition in which the Punjab was found to be when taken over, the financial results of the administration showed a surplus in 1851-52 of seventy-three lakhs of rupees, and in 1852-53 of thirty-five and three-quarter lakhs.

1857. The Sepoy mutiny, and measures taken.

65. The next three years from 1853 to the close of 1856 constitute a period of consolidation, during which the measures originated in the earlier years were completed or perfected. No events in the internal history of the province call for special notice, except that the construction of a railway from Multán to Amritsar was under consideration, when the outbreak of the mutiny put aside, for a time, that and many other schemes for the improvement of the country. The story of the mutiny and the part in it played by the Punjab have now become matters of history. It will be sufficient to notice briefly the subsidiary measures in aid of the military operations for the suppression or prevention of the rising in the province. Civil officers were immediately empowered to try and punish summarily, even with death, offences affecting the public tranquillity; a strict but judicious censorship was maintained over the native press; all letters addressed to sepoys were opened, and much curious and valuable information was thereby obtained. All treasure was concentrated at places where a European guard could be obtained. The ferries over the five great rivers of the Punjab were guarded with special care, and the country was thus divided into blocks of territory insulated from each other. All Hindustanis without employment were deported out of the Punjab, and mendicants and roving fakirs coming from the east were turned back. The cis- and trans- Sutlej divisions were disarmed, 69,000 stand of arms being given up by the people. These divisions had not been included in the disarmament of the rest of the Punjab which took place in 1849. A few months later the Delhi and Hissar divisions were also disarmed, 225,000 arms being taken by the police in addition to forty cart-loads of arms from the city of Delhi. The principle of recovering the value of plundered property from the persons, villages or towns implicated, by means of fines, was everywhere rigidly enforced. Lastly, the active co-operation of the people in the extirpation of the mutineers was secured by paying a reward of Rs. 50 for every mutinous sepoy delivered up alive, the captors being permitted to retain any property found on the person of the mutineer. The effect of this order was to place the Hindustanis as soon as they left cantonments among a nation of enemies. The financial position of the province was a difficult one: all remittances from Calcutta were cut off, the demands of the besieging army before Delhi were large, and it took some time for money from Bombay to reach Lahore. A loan, producing 41 lakhs of rupees, was therefore raised: it served as a useful index to the state of public opinion.

1858. Events subsequent to the mutiny.

66. The next few years after the mutiny were devoted to restoring order and to taking up the task of progress which had been temporarily suspended. In February 1858 the divisions of Delhi and Hissar were formally incorporated in the province of the Punjab, adding six to the twenty-seven original districts. The Thánesar district, however, was broken up in 1862, and divided between Ambála and Karnál (Pánipat). The division of the province into ten divisions and thirty-two districts continued for 22 years unchanged. In August of 1858 two disarmed native regiments at Multán revolted owing to misapprehensions of the intention of Government towards them. They were pursued and all of them either captured or killed. This was the last outburst of the mutinous spirit in the native army. The Hindustani regiments that were disbanded at Mián Mir and elsewhere were sent to their homes. Other military measures were the transfer to the Bengal Army of four regiments of cavalry and

seventeen of infantry raised in the Punjab during the mutiny. A regiment of Gurkhas was formed from men of this class in the Punjab Infantry and the Police Battalions, and added to the Punjab Frontier Force. Rewards in the shape of grants of territory were made to the Chiefs of Patiála, Jínd and Nábha for the services rendered during the preceding year; and a large estate in Oudh was conferred upon the Raja of Kapurthala.

1859. Constitution of Lieutenant-Governorship. Sir R. Montgomery.

67. At the commencement of 1859 the Punjab, together with the Delhi Territory, was placed under a separate Lieutenant-Governor. Sir John Lawrence was the first to hold the office; after a brief interval he resigned and left the province, with the administration of which he was so intimately connected ever since its annexation to the British Empire, and was succeeded by Sir Robert Montgomery. The year is remarkable for the commencement of the first railway in the Punjab from Amritsar to Multán (on the 8th February 1859), and for the admission of water into the Bári Doab Canal. The year 1860 was marked by a severe famine which afflicted the districts south of the Sutlej. Efforts were made to relieve the starving population, but there was great mortality. The districts along the Rájpútána border felt the effects of the famine most severely. The following years demand little remark on account of events of special importance; the resources of the country were quietly developed, and steady progress made in every branch of the administration. In 1860-61 the police were reformed, the military and civil branches of this force were amalgamated and placed under the orders of an Inspector-General. In 1862 the Penal Code was introduced in the Punjab. During these two years much was done to assimilate the government of the Punjab to that of the older provinces of British India. Special courts for the trial of civil suits were established, civil and criminal jurisdiction was conferred on some of the principal jágirdars as Honorary Magistrates, taxation was imposed on the non-agricultural classes, and the land revenue system was framed on that of the North-Western Provinces. The conservation of the timber forests on the slopes of the Himalayas was taken in hand, the preliminary surveys and reports being made in 1861-62. The first exhibition of arts and manufactures in the Punjab was held at Lahore in this year.

1865. Sir D. McLeod.

68. On the 10th January 1865 Sir R. Montgomery resigned the Lieutenant-Governorship of the province, and was succeeded by Sir Donald McLeod. In the same year the office of the Judicial Commissioner was abolished, and a Chief Court, consisting of two judges, was created by Act XXIII of 1865. In that year also the appointment of Settlement Commissioner of the Punjab was created, and Mr. E. Prinsep was the first to hold that office. Henceforth the internal history of the province, though always marked by some special features of its own, is practically that of the remainder of British India. In 1865 disturbances in Baháwalpur, and the simultaneous death of the Nawab, compelled the interference of Government, and the State was placed under the care of a Superintendent. In 1867 special efforts, which have not proved successful, were made to encourage trade with Yárkand and Káshgar. The eastern and southern parts of the province were visited by a severe drought in 1868-69, which culminated in a famine in the tracts to the south of the Sutlej. Relief works were promptly undertaken in the Jullundar, Lahore, Hissar and Delhi divisions, in the two latter on an extensive scale; the number of persons that received relief in these divisions from January to May 1869 being 2,100,000. Rain fell in March 1869, and for a time matters looked better, but the rainfall throughout 1869-70 was unseasonable, and the drought continued with increasing severity. But for a copious fall of rain in September, a famine more terrible than the famine of 1783, which is still remembered, would have devastated the country. Owing, however, to the timely adoption of further measures of relief, the exertions of all officers and the co-operation of the wealthier classes, the people were saved from starvation, and were subsequently helped to recover from the calamity by advances of money and liberal remissions of revenue. The famine was, as usual, attended by sickness. Small-pox and cholera prevailed to an alarming extent during the year.

1870. Sir H. Durand 1871. Sir H. Davies.

69. In June 1870 Sir D. McLeod retired from the office of Lieutenant-Governor and was succeeded by Sir Henry Durand, who met with a fatal accident seven months afterwards. His successor was Sir Henry Davies. The year 1871-72 was one of considerable legislative activity for the Punjab. The provisions contained in the Punjab Civil Code and in various Bengal Regulations and administrative rules and orders were consolidated and re-enacted in the Punjab Laws Act. An Act (since superseded) was passed for the collection and settlement of the land revenue ; and the Canal and Drainage Act codified the rules regarding irrigation in the province. Special legislation was adopted to control the criminal tribes which are found in some strength in the Punjab, and some other measures were passed which have since been superseded. The experiment of employing prisoners on extra-mural labour at Rúpar on the Sirhind Canal work was commenced in this year. In January 1872 a band of Kúka fanatics caused a disturbance in Máler Kotla, which had been preceded by the murder of some Muhammadan butchers at Amritsar in August 1871. Repressive measures were promptly taken, and the ring-leaders were exiled. In 1874-75 the first step was taken towards the separation of the judicial and executive functions, which, as explained above, had been combined in the persons of district officers ever since the annexation of the province. In January 1876 His Majesty King Edward VII, then Prince of Wales, paid a visit to the Punjab. The year 1877 was marked by the Imperial Assemblage, and the gathering of all the Punjab Feudatories at Delhi in common with the other Chiefs of India. Unseasonable weather in 1877-78 caused considerable anxiety. A scarcity was experienced in the districts of Karnál, Hissar and Delhi, where special measures of relief had to be organized, and works were undertaken for the relief of the starving population.

1877. Sir R. Egerton.

70. In April 1877 Sir Robert Egerton succeeded Sir H. Davies as Lieutenant-Governor of the Punjab. In November 1878 the war with Amir Sher Ali Khan commenced, and the resources of the province were fully taxed, as it formed practically the base of operations for the armies operating in Northern Afghánistán. In the earlier phase of the war contingents from the States of Patiála, Baháwalpur, Jínd, Nábha, Kapurthala, Farídkot and Náhan joined the British force, and performed excellent service. The years during which the war lasted, from November 1878 to the end of 1880, were marked by some scarcity, owing to deficient rainfall and considerable sickness, and trade towards the west was affected by the military operations, but these called everywhere for increased labour, and large profits were made by many sections of the community, while the simultaneous construction of the railway towards Pesháwar, which was pushed forward with much energy, afforded ample employment to the needy. On the termination of the war a Viceregal Durbar was held at Lahore by the Marquis of Ripon, at which all the ruling chiefs and principal native gentlemen of the province were present. In 1877 Kashmír, which had hitherto been under the provincial administration, was taken under the control of the Supreme Government. Towards the close of the administration of Sir R. Egerton, the second Punjab exhibition of arts and manufactures was held at Lahore.

1882. Sir C. U. Aitchison.

71. Sir Charles Aitchison, who succeeded as Lieutenant-Governor, assumed charge of office in the spring of 1882. During the early years of his administration the Punjab University was created, and the policy of local self-government was introduced or extended by the District Board and Municipal Acts which then became law. A net-work of railways, which left few portions of the province in a position of isolation from the sources of food supply, was gradually completed, and almost the whole of this was amalgamated under a single administration as the North-Western Railway in 1885-86. Portions of the arid Ferozepore, Multán and Montgomery districts were protected by new or improved inundation canals. The Sirhind Canal, opened in November 1882, was extended to irrigate large areas in British territory and Native States south of the Sutlej, while another portion of the same thirsty tract was also provided with a supply by the extensions of the Western Jumna Canal scheme known as the Sirsa Branch. The area watered by the Bári Doab Canal was considerably enlarged ; and the completion of the second stage of the

Chenab Canal project opened up the greater portion of the Rechna Doab to colonization. All these measures were aimed at guaranteeing the Punjab as a whole from a repetition of the famines of the past. In 1885 the meeting between His Excellency Lord Dufferin and His Highness the Amir of Kábul at Ráwalpindi, and the incidents which occurred outside India at that time, evoked a marked display of loyal and warlike feeling in the province, and the offers of services then made by the ruling chiefs of the Punjab resulted later in the formation of the Imperial Service Corps. During the following year Sir C. U. Aitchison served as President of the Public Service Commission, the recommendations of which have since led to various administrative reforms and to the introduction of the Provincial Service. The last work of his administration was to organize the foundation of the Aitchison (Chiefs') College at Lahore to provide a special education for the sons of the leading families of the Punjab.

1887. Sir J. B. Lyall.

72. Sir James Lyall succeeded as Lieutenant-Governor in April 1887. During the summer of that year the important Acts which now regulate the land revenue and land tenures of the province, recognising the new system of continuous inquiry and record of agricultural facts, and which had been prepared under Sir C. U. Aitchison, became law, and in accordance with the wishes of the Government of India, a number of districts were at once put under settlement. The expeditions undertaken in 1888, 1891 and 1892 against the Black Mountain tribes and in 1891 against the Sámil Orakzais belong to the history of the North-West Frontier Province. In 1887 the special laws already in force in the frontier districts for the repression of crime were extended by a new Regulation empowering Deputy Commissioners in cases where judicial proof is deficient to pass sentences of imprisonment on the verdicts of Councils of Elders up to a maximum of seven years for murder and other heinous offences. In November 1887 His Excellency the Viceroy of India, Lord Dufferin, visited Dera Gházi Khan and bestowed khillats on certain native gentlemen in Durbar. In the spring of 1890 the province was honoured by a visit of His Royal Highness the late Duke of Clarence, who laid the foundation stone of the Jubilee Museum building at Lahore, and in the following year His Imperial Highness the Czarevitch also made a brief stay in the Punjab. His Excellency the Viceroy paid a visit to Patiála in October 1890 and confirmed the Maharaja in the full powers of the ruler of his State; and the Raja of Kapurthala was invested with the same powers by the Lieutenant-Governor shortly afterwards. Previous to this the Imperial Service Corps of the leading Native States had been thoroughly reorganized and formed into a body of efficient troops. The returns of the census of 1891 showed the extraordinary impulse to the growth of population which the peace and partial immunity from pestilence and starvation of the preceding years had given and fears were entertained that the growing numbers might in some tracts soon begin to press on the limits of subsistence in spite of the provision of new fields for industry. In 1891 a locust plague brought portions of the Ráwalpindi and Jhelum districts within reach of famine, and both 1890 and 1892 were marked by destructive visitation of fever, beside which even the cholera of the latter year with its 50,000 deaths sinks into insignificance. During 1890—1892 various measures of improvement involving a considerable expenditure were carried out in the Police and Jail Departments, and large sums were spent upon providing additional and improved accommodation in central jails. Crime, which, owing to many causes, had shown a serious development up to 1888, slowly declined in subsequent years. In 1891 effect was given to the proposals of the Punjab Government for strengthening the hands of the Deputy Commissioners of frontier districts in the discharge of their political duties by the appointment of special Political Assistants, and the addition was made to the staff of officers of the Dera Gházi Khan district of a 1st class Assistant District Superintendent of Police and a Political Tahsildar. The scheme for the revision and distribution of the new force of Border Military Police received the sanction of the Government of India in May 1892. At this period provincial finances were at a very low point, and except during the last two years of Sir James Lyall's administration the want of money constantly

necessitated the postponement of important works. Among the buildings of note added to the province within the period are the Chief Court, the Lady Aitchison Hospital and Lady Lyall Training Home, of which the foundation stones were laid by Their Excellencies Lady Dufferin and Lady Lansdowne, the Aitchison (Chiefs') College, the Jubilee Museum and the Albert Victor Memorial Wing of the Mayo Hospital. The most important engineering work of the time was the construction of the weir for the Chenab Canal, with which the development of water-works at Ráwalpindi, Delhi and other less important places is worthy of mention.

Pacification of the Baluchistan Border Tribes.

73. The decade 1882—1892 saw a remarkable advance in the pacification of the tribes lying to the south of the Gomal Pass. During the early years the occupation of Quetta, Peshin and Thal-Chotiáli continued to contribute materially towards the establishment of an effective control over the hill clans on the Lower Deraját border, all cases between these tribes and those under the Agent to the Governor-General in Balúchistán, to whose charge the Khetráns were transferred in 1882-83, being settled at conferences held at Sibi and Fort Munro. The result of these meetings was that crime was suppressed, blood feuds kept under control and relations between the tribes themselves were maintained on a satisfactory basis. Since 1890, when the political control of the Balúchistán Agency was extended over the Zhob Valley, the whole aspect of affairs has become changed, direct influence having been brought to bear on the hill country from both sides. By a notification of the Government of India, issued in November 1889, the jurisdiction of the Deputy Commissioner of Dera Gházi Khan and the Commissioner of the Deraját (at the present day of Multán) was extended over the hill country of the tribes adjoining that district, who had hitherto been under their political control only, from the boundary of the district on the south to the boundary of the Bozdár tribe on the north. This measure has proved to be one of unqualified success and has materially contributed towards efficient tribal management on that part of the border; and it has since been extended to the Bozdár country also. Many burning inter-tribal boundary disputes have been settled with excellent effect.

1892. Sir D. Fitzpatrick.

74. Sir James Lyall's term of office expired in March 1892 when he was succeeded as Lieutenant-Governor by Sir Dennis Fitzpatrick. Agricultural conditions were prosperous until the year 1895, and there was a bumper rabi harvest in 1893. The monsoon terminated early in August in 1895, and there was a poor kharif harvest followed by a deficient spring crop in 1896. The almost complete failure of the monsoon in the latter year caused widespread scarcity not only in the Punjab, but also in many other parts of India, and grain was procurable only at very high prices. The whole of the Delhi division, except Simla, was affected, and also parts of the Jullundar, Lahore and Ráwalpindi divisions. Famine relief works had to be undertaken on a large scale, the relief afforded being reckoned at 22½ million day-units and the maximum number under relief on any one day being 127,758. Hissar was the most distressed tract and accounted for one-half of the total number relieved. The cost of relief operations was Rs. 22⅓ lakhs, revenue to the amount of Rs. 22 lakhs was suspended, and loans for the purchase of seed and cattle were granted to the amount of Rs. 11½ lakhs at the conclusion of the famine. From the Charitable Relief Fund subscribed in England and in India Rs. 12½ lakhs were allotted to the Punjab to meet claims beyond the scope of State aid. The active colonisation of the Rechna Doab began in 1892 and led to the enactment of the Government Tenants (Punjab) Act (III of 1893), simplifying procedure and defining the status of the new colonists. The effect of the food supply raised on the newly allotted lands in mitigating the severity of famine was already apparent in the visitation of 1897, and is prominently noticed in the official history of that famine. Lyallpur, the head-quarters of the colony, in whose name is perpetuated the memory of the Lieutenant-Governor under whose auspices the colonisation scheme was matured, was founded in 1896. The constitution of the Provincial Civil Service, noticed in the next section, was effected in 1893. In consequence of the framing of the Durand Agreement in 1893 affairs on the frontier continued to absorb the energies of the Punjab Government, as within the scope of its political control fell the

delimitation of the sphere of British and Afghan influence, the expedition of 1894-95 against the Mahsud Waziris, the Chitrál Relief Expedition of 1895, and the general rising of the Pathan tribes from the Swat Valley to the Kurram in 1897. The first ruling chief in the Punjab to visit Europe was the Raja of Kapurthala, who did so in 1892, spending the summer of 1893 there. The Raja's grandfather died when on his way to pay a visit to England. The visit of the Viceroy (Lord Elgin) to Lahore in November 1894 was the occasion of a durbar in which the principal ruling chiefs were assembled together. The name of Sir Dennis Fitzpatrick will always be associated with the completion of the Kángra and Kulu Forest Settlements, a legacy of his predecessor, which his untiring energy and legal acumen enabled him to bring to a satisfactory conclusion.

1897. Sir Mackworth Young.

75. On the retirement of Sir D. Fitzpatrick in March 1897 Sir William Mackworth Young became Lieutenant-Governor, and was at once confronted with the Pathan revolt. The story of that rising and of the Mahsud blockade of 1900-01 belong now to the history of the North-West Frontier Province. The Patiála Lancers, the Patiála, Jínd, Nábha and Kapurthala Infantry, and the Sirmúr and Máler Kotla Sappers all took part in the operations on the frontier in 1897 and 1898. All the ruling chiefs also came forward with offers of assistance in connection with the war in South Africa, which elicited a most noteworthy display of loyalty on the part of the whole of the Punjab. The deaths of the Chiefs of Farídkot and Sirmúr occurred in 1898, of Baháwalpur, Pataudi and Jubbal in 1899, of Patiála in 1900, and of Keonthal in 1901. The deaths of the Maharaja of Patiála and the Nawab of Baháwalpur terminated long periods of misrule and reckless expenditure in each case, and both States were placed under management, the former by a Council of Regency, the latter by a British Superintendent. A Political Agent was appointed in 1901 for the control of the political relations of the Punjab Government with the three Phulkián States of Patiála, Jínd and Nábha. The kharif harvest of 1897 and the rabi harvest of 1898 were all that could be desired, but the kharif harvest of the latter year was poor, and when in 1899 the monsoon came to an untimely end famine was again in the land. There was a very great scarcity of fodder, and the mortality among cattle was immense; and the distress among the people affected was more intense than in 1896-97. The maximum number relieved on any one day was 243,000 (reached in March 1900) and the total relief afforded is reckoned at 52 million day-units. The cost of relief operations was Rs. 48 lakhs, the land revenue suspended amounted to Rs. 44 lakhs, and loans aggregating Rs. 19 lakhs were granted for the purchase of seed and cattle when favourable rains occurred in the autumn of 1900. The Charitable Relief Fund formed on this occasion allotted Rs. 12 lakhs for the wants of the Punjab. Hissar was, as before, the most deeply affected tract, and accounted for two-thirds of the number of persons relieved. The other tracts afflicted in 1896-97 suffered again in 1899-1900 and some other districts in addition. The relief measures undertaken were effectual in preventing death from actual starvation, but it was inevitable that the hard conditions of life should lead to an increased mortality, especially among the very young and the very old, and the number of deaths was in Hissar three times and in Rohtak twice the average number. In the other affected districts the normal was exceeded by varying proportions, all under 50 per cent. The gloomy anticipations raised by the failure of the kharif harvest of 1901 were happily not fully borne out. The conditions did not amount to a famine, though severe scarcity prevailed. Test works were opened in Hissar and gratuitous relief afforded. The aid given was gratefully recognized by the people as going far to preserve the stability of the district. Plague first appeared in October 1897 in the Jullundar district, whence it spread to parts of Hoshiárpur and of the Kapurthala State, disappearing in the spring of 1898 after causing 2,116 deaths out of 3,412 cases. It re-appeared in the same area in the winters of 1898-99 and 1899-1900, disappearing as before in the hot weather seasons. In the winter of 1900-01 the disease extended to the districts of Siálkot, Gurdáspur, Ludhiána, Ferozepore and Ambála, and in the following cold weathers the visitation became general. In the early stages of the disease

a fairly successful attempt was made to confine it to the locality of origin by an elaborate cordon. This was removed when in 1900 the Government of India formulated their plague policy in which such cordons were condemned. The disease then spread rapidly over the province. The constitution of a Legislative Council for the Punjab in 1897 is more particularly noticed in Chapter III. The chief enactments of the early years of the Council's existence were the Riverain Boundaries Act (I of 1899), the Chos Act (II of 1900), and the Descent of Jagirs Act (IV of 1900). The important Alienation of Land Act (XIII of 1900) was passed in the Imperial Legislative Council. During the winter of 1900-01 the Horse and Mule Breeding Commission made its inquiry and submitted recommendations which have led to important administrative changes in the Punjab in connection with the subject of the inquiry. The census taken on March 1st, 1901, showed the increase as compared with the population in 1891 as 6·85 per cent. for British territory and 3·78 per cent. for Native States, and disclosed the effect of the colonization of the Rechna Doab on the growth of population in the province as a whole. The creation of a new food-supply stimulates the birth-rate and minimises the retarding effects of scarcity, but colonization does not otherwise involve a special and abnormal increase of population, as all the colonists come from other districts within the Punjab and are not immigrants from without. On the population statistics of particular districts, however, the immigration to the Chenab Colony produced notable results.

Separation of North-West Frontier Province.

76. The creation of a new administration (the North-West Frontier Province) for the management of the political affairs of the North-West Frontier was proclaimed on the 25th October 1901. Under this proclamation the districts of Hazára, Pesháwar and Kohát, the Bannu and Marwát tahsils of Bannu district, and the Tánk, Kuláchi and Dera Ismail Khan tahsils of Dera Ismail Khan district, with a total area of 13,077 square miles, a population of 2,050,724 and an assessed land revenue of Rs. 21,56,400, ceased to form part of the province. The reasons for the separation of the Pathan districts from the Punjab concerned the management of political relations with the trans-frontier tribes. It having been decided that these relations should be brought under the direct control of the Government of India, the intermediate authority of the Punjab Government being eliminated, it followed, as the only practicable arrangement, that there should be placed under the same control and authority the civil administration of the areas within our border occupied by Pathan tribes, who are connected with the trans-frontier Pathans by tribal and family ties, as well as by trade and other relations, both friendly and hostile, arising out of propinquity and inter-migration. *Pari passu* with this change a re-arrangement of divisions and districts in the Punjab became necessary. Of the old Deraját commissionership the districts of Dera Ghází Khan and Muzaffargarh, nearly two-thirds of the Dera Ismail Khan district, and nearly three-fifths of the Bannu district remained with the Punjab. These latter portions were, with the exception of 412 square miles, added to Dera Ghází Khan, formed into the new Miánwáli district: and these districts of Dera Ghází Khan, Muzaffargarh and Miánwáli, together with the districts of Multán and Jhang previously included in the Lahore division, were constituted a new commissionership of Multán. In exchange the districts of Siálkot and Gujránwála were transferred to the Lahore division from Rawalpindi, which retained four districts only. As the immediate result of the re-arrangements following on the creation of the new province the Punjab consisted of 5 commissionerships and 27 districts.

1902. Sir Charles Rivaz.

77. Sir Charles Rivaz succeeded Sir Mackworth Young as Lieutenant-Governor in March 1902. In December of the same year the Coronation Durbar, held in honour of the accession of His Majesty King Edward VII, took place at Delhi. In common with the Native Chiefs of India generally, certain selected Punjab Chiefs attended, and during the Durbar the Kaur Sahib of Patiála had the honour of receiving the K. C. S. I. and the Raja of Nábha the G. C. I. E., and the latter was appointed Honorary Colonel of the 14th (Ferozepore) Sikhs. The Punjab was honoured in the cold weather of 1905-06

by the visit of His Royal Highness the Prince of Wales (now His Majesty King George V), who was entertained at Delhi, Amritsar and Lahore. Most of the Chiefs attended at the ceremonies held in connection with the visit. The Legislative Council continued to exhibit great activity, and from its deliberations eventuated certain important Acts of which may be mentioned the Military Transport Animals Act (I of 1903), the Court of Wards Act (II of 1903), the Pre-emption Act (II of 1905), the Minor Canals Act (III of 1905), the Land Alienation Amendment Act (II of 1907), and the Colony Bill of 1907 which was open to misconception and led to considerable agitation, owing to which the assent of the Governor-General was eventually refused.

On the 4th of April 1905 the hill country round about Kángra was devastated by a disastrous earthquake which levelled to the ground nearly every building within an area of 700 square miles, and in which twenty thousand souls perished. Among the killed were 25 out of the 76 European inhabitants of Dharmsála, including nearly the whole civil staff, and 112 of the 7th Gurkhas. No time was lost in pushing up relief parties from the plains, and in a week medical relief stations had been established at five centres; in a fortnight the treasuries were opened, and the machinery of Government was once more in motion. For the relief of distress consequent on the destruction of property generous provision was made by Government: revenue and taxation were remitted, irrigation channels repaired, and grants of timber for the re-building of houses, and liberal advances of money were made: and at the same time private charity contributed over Rs $13\frac{1}{2}$ lakhs for the relief of distress which lay beyond the province of Government to provide for.

Death was very active among the Punjab Princes. The Raja of Mandi died in 1902, Raja Sham Singh of Chamba, who had abdicated in 1903, in 1905, Raja Balbir Singh of Farídkot in 1906, and the Nawab of Baháwalpur in the same year. The colonization of the Jhelum Colony was undertaken in 1902 and the construction of buildings at Sargodha, the head-quarters, began in the same year. In the Chenab Colony active allotment ceased by the end of 1904. Increasing attention began to be paid to the educational needs of the province and an exhibition was held in 1903 which proved useful and stimulating. The abolition of the middle school examination took place in the same year. Conferences on commercial education, female education and departmental work were held in 1904 and 1905, and were fruitful in results. The districts of Lyallpur and Attock were constituted in 1904 and in the same year four extra temporary Judges were appointed in the Chief Court and the fifth Judgeship was converted into a permanent appointment. The Irrigation Commission (1901-03), Police Commission (1902-03) and Survey Commission (1904-05) conducted their inquiries in the province and, as a result of the first-named, what is known as the Triple Project received the sanction of the Secretary of State in 1904. Under this scheme the surplus water of the Jhelum river is used to supply in part the existing Lower Chenab Canal, thereby setting free an equal amount of water for the irrigation of the Upper Rechna and Lower Bari Doabs. The recommendations of a previous inquiry materialized in 1903 when the Army Remount Department took over from the Civil Veterinary Department the control of horse and mule breeding operations in the "selected" districts of the province. For the development of Co-operative Credit Societies, a Registrar was appointed in 1903, and the movement, which has since made most satisfactory progress, was placed under efficient guidance. Further attention to the needs of the agricultural population led to the organisation in 1905 of the provincial Agricultural Department, under a Director of Agriculture with a staff of trained experts, and the construction of the Lyallpur Agricultural College and Research Institute was taken in hand. The assistance of the new department was at once invoked when boll-worm appeared in the autum of 1905 and almost wholly destroyed the cotton crop of the Central and South-West Punjab. Among the public works executed at this period may be mentioned the Accountant-General's Office, the Public Works Department Secretariat, the new Senate House and educational offices, and the improvement of the Lahore Mall.

1907.
Sir D. Ibbetson.

78. Sir Denzil Ibbetson, who had previously officiated as Lieutenant-Governor of the province from April to October 1905, during the absence on leave of Sir C. Rivaz, finally took charge on March 6th, 1907 : but was compelled to take leave from May to August of that year to submit to an operation in England for the fell disease which compelled his retirement in January 1908, and to which he succumbed less than a month afterwards. Sir Thomas Gordon Walker held temporary charge on the occasion of both vacancies. It was Sir Denzil who was called upon to deal with the political unrest in the early summer of 1907, which manifested itself in riots at Lahore and Ráwalpindi, in seditious articles in certain newspapers, and in more overt acts calculated to discredit Government, such as the fouling of wells. The unrest was due partly to the prevalence of plague and high prices and partly to agitation against certain measures of Government, such as the Colonization Bill and the proposed enhancement of the occupiers' rates on the Upper Bári Doab Canal. It was found necessary in May 1907 to deport two of the agitators under Regulation III of 1818. As a result of this measure, of prosecutions in connection with the riots, and of legislation dealing with public meetings of a seditious character, the feeling of unrest had by the autumn considerably abated, and in November the deported agitators were released. The Colonies Committee was convened in the autumn of 1907 to consider the whole question of the future management of the Canal Colonies in the Punjab, with particular reference to the grievances alleged against the policy underlying the recent legislation of the Provincial Council. The report was submitted to the Local Government in 1908. During 1907 the epidemic of plague reached its culminating point and recorded deaths from the disease amounted to the appalling total of 608,685.

1908.
Sir Louis Dane.

79. The office of Lieutenant-Governor was assumed by Sir Louis Dane from Sir Thomas Gordon Walker on May 25th, 1908. The resources of the province had been greatly depleted by the formation of new districts and by the demands of the colony administration, of the police reorganization, of agriculture, and of education, and it became necessary to institute a period of retrenchment and to insist on punctual realization of the land revenue demand in the collection of which the previous years of scarcity had encouraged some laxity. More efficient control of the provincial finances has resulted from the appointment of a Financial Secretary to Government, which, with the addition of a 2nd Financial Commissioner, became possible on the reduction in 1910 of the appointments of the Settlement and Excise Commissioners. In 1911 modifications were introduced in the Provincial settlement by which many of the fixed assignments, granted by the Government of India since the last settlement to cover the cost of administrative changes subsequently ordered, were abolished and instead an increased proportion of certain shared heads of revenue was allotted to the province. By this change, after three years of argument, the objection that these expanding charges could not fairly be met by a fixed income was accepted and some illiberality in the original settlement itself was recognised and removed. The year 1909 was a notable one in the constitutional history of the province owing to the important changes in the constitution and procedure of the Legislative Council effected under the scheme of reform relating to the whole of India which had been under discussion for the past three years. The first meeting of the enlarged Council took place on January 3rd, 1910. The measures which have since been placed on the statute book include the Punjab Municipal Act (III of 1911) and the Amendment Act (I of 1912) of the Punjab Courts Act, bringing the law of civil appeal in the Punjab more into line with the law prevailing in other provinces. The Civil Pancháyats Bill also, a measure to facilitate the establishment of village civil tribunals, reached its final stage. The growing needs of the province resulted in the appointment in 1909 of four new Sessions Judges (two of the appointments being "listed" for the Provincial Service). By these additions the number of Civil and Sessions divisions was brought up to 16 (exclusive of Kulu) and a long acknowledged insufficiency to some extent redressed. Important territorial changes have been frequent. In 1909, to relieve the overworked Lahore division, the district of Montgomery was transferred to the Multán division, and the Miánwáli district

in turn transferred from Multan to Rawalpindi, leaving behind, however, the Leiah tahsil which was incorporated in Muzaffargarh district. In 1910 the Sámpla tahsil of Rohtak district was abolished and its area divided among the three remaining tahsils, and in the same year, to relieve the heavy Lahore district, Sharakpur tahsil was transferred to Gujránwála district. Lastly, in 1911 the villages of Bhera tahsil of Shahpur district which are to receive irrigation from the Upper Chenab Canal were transferred to the Phália tahsil of Gujrát. Among the native princes the deaths in 1911 of the venerable Raja Sir Hira Singh of Nábha and the Raja of Mandi have to be recorded. Sir Bhupindra Singh was formally invested as Maharaja of Patiála in September 1909. Except for a severe visitation of malaria in 1908 and the continued presence of plague the general health has been good. Sanitation has increasingly occupied the attention of the administration, but makes little headway in the country districts : among the measures taken the appointment of Health Officers at Simla, Lahore and Amritsar has been fruitful in good results.

Agricultural conditions have been prosperous. The important wheat harvest has been good in each year, that of 1909-10 having been particularly favourable. The autumn harvests have been less successful, drought having had an unfavourable effect in 1911-12. Abnormal cold in 1910-11 and again in 1911-12 did some damage to the cotton and sugarcane crops. The co-operative movement continues to expand and the principle has taken firm root among the agricultural community. The Punjab Agricultural College at Lyallpur was opened in 1909 and an agricultural station for the submontane tract was started at Gurdaspur in 1910. In another direction the application of science to the needs of the country people has been advanced by the development of the Civil Veterinary Department, whose efforts to prevent and cure disease among live-stock have met with a ready welcome. The investigation of the possibilities of water storage where the great rivers leave the hills and on some of the Salt Range streams has led to the development of several promising schemes which will, if anticipations are realised, greatly add to the area under irrigation and steady the supply to existing cultivation. The simplification of settlement procedure has done much to reduce the inconvenience caused by the periodic reassessment of the land revenue demand. Nor have industries been neglected. The appointment of a Director of Industries ensures sustained effort on the part of Government to co-ordinate industrial enterprise and to collect and diffuse industrial knowledge. Resin distillation has already proved that there is a great future before the enterprise, and hope is entertained of the successful exploitation of the bamboo and spruce and silver fir forests for the manufacture of wood pulp. A comprehensive survey of the industries of the province ordered by the Local Government resulted in the publication of "The Industrial Punjab" in 1911.

In no part of India have the outbreaks of plague been more severe than in the Punjab, and from the autumn of 1897 to the close of 1911 the province has lost 2,030,187 persons by recorded deaths from plague. The number of unrecorded deaths must have been large. Unfortunately the disease has been specially fatal to young women of child-bearing age and the result has been a serious, check to the steady increase of population in the province. At the general census, which was taken on the night of the 10th March 1911, the population as compared with the population in 1901 was found to have decreased by 1·7 per cent. in British territory and by 4·8 per cent. in Native States. Sir Louis Dane took leave during the summer of 1911, and during his absence Mr. J. M. Douie, C.S.I., the 1st Financial Commissioner, officiated as Lieutenant-Governor.

Lahore Exhibition.

80. In the cold weather of 1909-10 was held the Industrial and Agricultural Exhibition for the Punjab, North-West Frontier Province and Kashmir. Differing from previous exhibitions held in Lahore, on this occasion the display was primarily and mainly the result of private enterprise. Originating in the first instance with the provincial committee of the Indian National Congress, the details of the undertaking were carried out by an Executive Committee of prominent residents of Lahore. At the same time the scheme obtained the cordial support of Government, which authorised the committee to enlist the services of Government officers and also furnished a guarantee against loss up to the extent of Rs. 1 lakh. His Honour the Lieutenant-

Governor, moreover, consented to become a patron of the Exhibition. A site for the buildings was found in the piece of ground near the Fort and the Badámi Bágh station. The Exhibition was opened in state by His Honour the Lieutenant-Governor on December 11th, 1909, accompanied by the Maharaja of Kashmir and most of the Punjab Chiefs. Before formally opening it, His Honour delivered an address, in which he made a comprehensive survey of the past and present agricultural, industrial and economic conditions of the province, and pointed out the directions in which further development of the resources of the country could most hopefully be looked for.

1910. King Edward Memorial.

81. To commemorate the death of His Majesty King Edward VII a memorial scheme was propounded and, in response to the Lieutenant-Governor's appeals, it was resolved at a representative gathering held in Lahore on 30th July 1910 that, as a Punjab memorial to His late Majesty, a new and enlarged medical college should be built, and the attached hospitals—the Mayo, the Albert Victor and the Lady Aitchison—should be expanded and improved so as to form a great central institution for medical relief and instruction. At the same time the Veterinary College would be improved and enlarged so as to give instruction up to the degree of Veterinary Surgeon. A provincial committee was appointed to carry out the scheme with the Hon'ble Sir Arthur H. S. Reid, Kt., Chief Judge, Punjab, as President. The executive committee and sub-committees, appointed by the Provincial Committee, proceeded to work out the details, and a rough scheme was submitted to Government by the end of the year. The aggregate expenditure on sites, buildings and equipment is expected to exceed Rs. 35 lakhs towards which the Government of India have contributed Rs. 10 lakhs. The sum of Rs. 13 lakhs has been collected in public subscriptions.

1911. Coronation Durbar.

82. The Coronation Durbar, held in Delhi, in December 1911, by His Majesty King George V, to announce his accession to the Imperial throne, was an Imperial event beyond the scope of this report. The provincial administration, however, was deeply engaged in the arrangements culminating in the gorgeous and historical pageant, and materially contributed to the successful issue. In particular the work of the Punjab police force in handling the traffic and controlling the vast concourse that assembled to do honour to the Royal visitor elicited well-merited admiration. The province hailed with pleasure the gracious announcement that the seat of the Imperial Government would in future be in Delhi, and accepted as inevitable the subsequent decision that that historic city, so closely associated with the makers of the Punjab, should cease to be under the administration of the Local Government.

3. FORM OF ADMINISTRATION.

General.

General administration.

83. The direct administrative functions of Government are performed by the Lieutenant-Governor through the medium of the Secretariat which consists of three executive Secretaries, styled the Chief, Revenue and Financial Secretaries, respectively, with three Under-Secretaries, a Registrar and Mir Munshi. In the Public Works Department there are also three Secretaries—the Chief Engineers—one in the Buildings and Roads Branch and two in the Irrigation Branch, the former assisted by an Under and an Assistant Secretary, and the latter by two Under and one Assistant Secretary. The heads of the Police and Educational Departments are also Under-Secretaries to Government in their respective departments. There is no Executive Council in the Punjab, but the Lieutenant-Governor is assisted by a Legislative Council, the history and development of which are given in Chapter III. The administrative units are the districts, in charge of Deputy Commissioners, assisted by European and Indian assistants, arranged in divisions in charge of Commissioners, to whom the Deputy Commissioners are subordinate. The number and average size of the districts and divisions will be found in section 5 of this chapter. In purely administrative work, including the control of District and Municipal Boards, no authority is interposed between the Commissioner and Government.

District administration.

84. The district itself is further sub-divided into tahsils in charge of a Tahsildar, with whom is associated one, in some cases more, assistants or Naib Tahsildars. In a few districts one or more tahsils form a sub-division, which is placed in charge of an officer with extensive powers exercised under the supervision of the Deputy Commissioner. In most districts the villages of a tahsil are grouped into zails for which a zaildar is selected from among the headmen or lambardars of the village of the zail. The lambardars are remunerated by a small cess on the Government land revenue demand, but the zaildars are given a small remuneration of about 1 per cent. of the demand itself. The lambardars and zaildars are "village officers" and not Government servants. The district Land Records and Excise staff, though organised for special departmental work, is available for general administrative work, and especially in the case of the Land Records establishment is frequently so employed. The staff of the district also includes the Superintendent of Police, the Civil Surgeon and the District Inspector of Education with their subordinates, all of whom are subject to control by the Deputy Commissioner. Other departments are not organised with special reference to the district.

The Chief Court.

85. In 1866 a Chief Court, consisting of two Judges, a Civilian and a Barrister, was substituted for the Judicial Commissioner, and was constituted the final appellate authority in civil and criminal cases, with powers also of original criminal jurisdiction in cases where European British subjects are charged with serious offences, and of original civil jurisdiction in special cases. In the year 1869 a third Judge, a Civilian, was added to the Court. The constitution of the Chief Court subsequently remained unaltered until 1881, when the steadily increasing work made it necessary that some assistance should be given to the Judges. In October of that year the temporary appointment of a fourth Judge was accordingly sanctioned. Notwithstanding this addition to the Court, it was found in July 1882 that the number of civil appeals pending was considerably in excess of that on the corresponding date of the preceding year, and in the following November two additional Judges were employed. From time to time it was found necessary to retain the services of these additional officers, and in the latter half of the year 1886 the appointment of a fourth permanent Judge was sanctioned. The abolition in 1885 of the Bench system in the Divisional Courts, explained in paragraph 94, added to the number of appeals preferred to the Chief Court, and so congested became the state of work in it that for some time it was necessary to employ six Judges, while in 1888 the Punjab Courts Act of 1884, by which the present system was introduced, had to be amended so as to diminish the appellate business of the highest tribunal in the province. Although it was then found possible to reduce the number of Judges to five, arrears again became marked in 1895 and 1896, and at the end of that year the strength of the Court was again raised to six (four permanent and two temporary) Judges. In 1899 the law of appeal in the Punjab Courts Act was further amended; but the hopes that the Court would now be able to cope with the work proved fallacious, and in 1904 it became necessary to employ four temporary Judges to clear off arrears. A fifth Judge was at the same time permanently added to the Court. Even these measures proved inadequate. One temporary additional Judge has been constantly employed, and a second has frequently been found necessary. The law of appeal has during the past year again been amended by Punjab Act I of 1912 in the hopes of reducing the number of appeals, but a further increase in the permanent constitution of the Court appears to be only a question of time.

Divisional Courts.

86. Subordinate to the Chief Court are the Divisional and Sessions Judges, each exercising civil and criminal jurisdiction in a civil and sessions division comprising one or more districts. As Divisional Judges these officers try most of the first appeals in civil suits, and as Sessions Judges they try sessions cases and hear criminal appeals from the District and 1st class Magistrates, and thus fulfil the functions of District and Sessions Judges in the Regulation Provinces.

District Civil Courts.

87. In the district the District Judge's court is the principal court of original jurisdiction, and in this court are heard appeals in minor civil suits

from the subordinate courts of the district. A Subordinate Judge, exercising unlimited civil jurisdiction, is appointed in many districts to assist the District Judge, but the majority of civil suits are tried in the first instance by Munsifs, posted either at district head-quarters or at outlying stations. Munsifs are of three grades—the jurisdiction of a first grade Munsif being limited to suits not exceeding Rs. 1,000 in value. The assistants to the Deputy Commissioner are always invested with the powers of Munsifs and assist largely in the disposal of civil suits, but the former practice of investing Tahsildars with Munsif's powers is being gradually discontinued, with the increase in the numbers of Munsifs themselves. There are Small Cause Courts at Lahore, Amritsar, Delhi and Simla, and many Munsifs are invested with the powers of such courts under Act IX of 1887. Honorary Civil Judges with powers of a Munsif are appointed from time to time and do useful work.

District Criminal Courts.

88. The Deputy Commissioner is the District Magistrate and controls the whole of the subordinate criminal courts of the district. The District Magistrate and occasionally other Magistrates are invested under section 30 of the Indian Penal Code with powers to try all offences not punishable with death and to inflict sentences up to seven years' imprisonment The District Magistrate hears appeals from the Magistrates of the second and third classes, but this power is shared with Additional District Magistrates who are appointed in certain districts. In the districts in which the Frontier Crimes Regulation is in force the Deputy Commissioner, on the finding of a Council of Elders (jirga), may pass sentence up to fourteen years. Sentences exceeding seven years require the confirmation of the Commissioner, who has revisional jurisdiction in all cases. All the assistants to the Deputy Commissioner are invested with magisterial powers as well as the District and Subordinate Judges, but not the Munsifs. Tahsildars usually exercise 2nd class powers and Naib Tahsildars powers of the 3rd class. Considerable assistance is obtained from Honorary Magistrates who sit either singly or as a Bench under section 15 of the Code of Criminal Procedure.

Revenue Courts.

89. Special Revenue Courts, to decide all suits regarding tenant rights, rents and divers cognate matters, in which civil courts have no jurisdiction, have been established under the Punjab Tenancy Act. Tahsildars and Naib Tahsildars are Assistant Collectors, 2nd grade, the assistants to the Deputy Commissioners are Assistant Collectors, 1st grade, and the Deputy Commissioner is the Collector, all three classes of courts exercising original jurisdiction. Appeals from Assistant Collectors lie to the Collector, from him to the Commissioner, and from the Commissioner to the Financial Commissioner, who is the final court of appeal in revenue cases.

Political administration.

90. The Punjab Native States are arranged for the purposes of supervision into five groups—(*i*) the Phulkián States (comprising Patiála, Jínd and Nábha), for which a separate Political Agent was appointed in 1901, and Baháwalpur which was included in the Political Agent's charge in 1903; (*ii*) the States of Kapurthala, Mandi, Máler Kotla, Farídkot and Suket in the political charge of the Commissioner of Jullundar; (*iii*) the States of Sirmúr, Kalsia, Pataudi, Loháru and Dujána in the political charge of the Commissioner of Delhi; (*iv*) the State of Chamba in the political charge of the Commissioner of Lahore; and (*v*) the 19 Simla Hill States, which are in the charge of the Deputy Commissioner of Simla, who is *ex-officio* Superintendent. These officers rank in each case as Agents to the Lieutenant-Governor. For the independent Baloch tribes on the borders of the Dera Gházi Khan district the Commissioner of Multán is Agent, but the ribes are in the immediate charge of the Deputy Commissioner of Dera Gházi Khan as Political Officer.

Imperial Service Troops.

91. In the Afghan War of 1878-80 contingents from some of the Punjab Native States did good service in the Kurram Valley; and when war seemed imminent in 1885 the Native Princes placed the resources of their States at the disposal of the Government of India. From this offer arose (in 1889) the body of Imperial Service Troops. These troops, though available for Imperial Service when placed at the disposal of the British Government by their Rulers, belong absolutely to the States and are recruited from their subjects.

They are, however, under regular inspection by British officers, who are responsible to the Foreign Department of the Government of India. The cost of the troops is borne by the States, the charges of the British inspecting staff falling on the revenues of British India. The Sirmúr Sappers saw service on the Samána in 1891; in the Punjab Frontier campaign of 1897-98 the Jínd, Kapúrthala, Nábha and Patiála Infantry and the Máler Kotla and Sirmúr Sappers were engaged; and in Tirah (1897-98) the Jínd and Nábha Infantry and the Máler Kotla and Sirmúr Sappers. The Máler Kotla Sappers were also employed in China in 1900-01. In each case the Imperial Service Troops have acquitted themselves with credit.

Financial administration.

92. The development of decentralisation in the administration of the finances in India and of the present system of provincial finance belongs to the domain of Imperial Administration. It is enough to say that the Government of India has delegated to the Local Government the control of expenditure on the ordinary administrative services together with the whole or a proportion of certain heads of revenue sufficient to meet those charges. Of the *quasi*-commercial departments, forests have recently been made wholly provincial: the transactions, other than on capital account, connected with the larger irrigation works are divided between the Imperial and Provincial accounts: the post office, telegraphs, and railways are wholly Imperial. The financial administration of the Local Government is subject to the general supervision of the Supreme Government and to certain definite limitations in respect to the creation of appointments, the remuneration of officers, the revision of establishments and the execution of large public works. The Local Government is accordingly merely the delegate of the Government of India; it has, moreover, no borrowing powers and can impose no additional taxation, and in case of unforeseen calamities, such as famine and plague, has to fall back upon the assistance of the Supreme Government. The control of the Legislative Council over provincial finance is explained in chapter III. The Provincial Budget is prepared in the Secretariat, but is subject to alteration by the Government of India, with regard to the divided heads and the proposed totals of revenue and expenditure. The Government of India also fix a limit for ordinary *plus* fresh recurring expenditure. The distribution of the sum which it is proposed to devote to new expenditure is considered by the Finance Sub-Committee of the Legislative Council before the budget is presented to the full Council.

Provincial settlement.

93. A revision of the arrangements between the Local and Imperial Governments, known as the provincial settlement, which was intended to be of a permanent nature, took effect from the year 1905-06. As in other provinces, it was felt that this settlement treated the Punjab with less than liberality. In the Punjab the development of the canal colonies and the increasing expenditure necessary in these areas introduced an element of uncertainty which made the ascertainment of a normal standard of revenue and expenditure unusually difficult. The resources of the province were further straitened by the abolition, under the orders of the Government of India, of various growing sources of income, chief of which were the famine cess (included in provincial rates) and the patwari cess, and the substitution of fixed compensatory assignments. The justice of the Punjab claim to greater liberality was gradually recognised, and with effect from 1911-12 modifications in the provincial settlement were introduced, which have greatly eased the position. The share of land revenue and irrigation receipts assigned to the province was raised from $\frac{3}{8}$ to $\frac{1}{2}$, and in raising in like manner the share of provincial liability for irrigation charges the Government of India guaranteed to the province a net annual income from irrigation of Rs. 41 lakhs in place of the previous Rs. $30\frac{3}{4}$ lakhs. At the same time forest income and expenditure previously shared equally by the two Governments became wholly provincial.

The Punjab Commission.

94. The civil administration is carried on by the Punjab Commission, recruited from the Indian Civil Service, the Indian Army and the Provincial Civil Service. Since the separation of the North-West Frontier Province, however, recruitment from the Indian Army has ceased. The development of the present system has been gradual. Prior to the year 1875 the officers

of the administration combined within the scope of their duties all judicial and executive functions. This arrangement had been in force since the annexation of the Punjab, but the rapidly increasing calls on the time and energies of administrative officers that accompanied the development and advancing prosperity of the country during the decade following the mutiny, and especially the increase of judicial work, pointed to the necessity for some steps towards the ultimate separation of judicial from executive duties, as in the Regulation Provinces. Accordingly in the year 1875 measures were introduced to relieve Tahsildars, Deputy Commissioners and Commissioners of the excess of judicial work which interfered with their efficiency. In each tahsil, where the number of suits was large, a Munsif was posted, the judicial work of Deputy Commissioners was in twenty-three districts transferred to Judicial Assistants, and two Additional Commissioners at Lahore and Jullundar, respectively, were appointed to aid in the disposal of civil and criminal appeals and of original criminal trials in serious offences. This scheme afforded no relief to the Commissioners as a body, and in less than seven years experience showed that further changes were imperatively called for and the following reforms were introduced in the year 1884:—The ten Commissionerships were reduced to six, those of Hissar, Ambála, Amritsar and Multán ceasing to exist, and the districts of which they were composed being apportioned between the divisions of Delhi, Jullundar, Lahore, Ráwalpindi and the Deraját. The Sirsa district was abolished and divided between the districts of Hissar and Ferozepore. The remaining thirty-one districts of the province were divided into seven civil divisions, two Divisional Judges being appointed for each division, mainly with a view to the prompt and, in certain cases, final disposal of civil appellate work, the two Judges of each division sitting as a Bench for hearing appeals. Except in the Derajat, Commissioners were entirely relieved of civil and criminal judicial work, though not of revenue appellate business. For criminal business the province was divided into ten sessions divisions, in three of which Joint Sessions Judges were appointed in addition to the Sessions Judge. In fourteen out of the thirty-one districts special officers were appointed as District Judges: in the other seventeen districts the Deputy Commissioners became the District Judges, but in eleven of these Subordinate Judges were appointed with original and appellate powers to relieve the Deputy Commissioners of all civil judicial work except powers of control and the distribution of business. In the remaining six districts the Deputy Commissioners were expected to hear civil appeals, but not to decide original civil suits. In April 1885 the Judges of the Chief Court represented that the Divisional Courts, which had come into being on the 1st November preceding, were quite unable to cope with the number of appeals coming before them, and before the close of the year it was found necessary to discontinue the Bench system and to substitute thirteen Divisional Courts with a single Divisional and Sessions Judge in each; and such was the state of arrears in the courts that six additional Divisional Judges had to be temporarily appointed to clear off the accumulations. The changes rendered necessary by the separation of the North-West Frontier Province reduced the number of executive divisions to five and of districts to twenty-seven, while the number of judicial divisions was reduced by one to twelve. Eight District Judgeships only were graded posts in the Punjab Commission carrying special rates of pay: the remainder being held by Assistant Commissioners or members of the Provincial Civil Service.

This system proved adequate to the needs of the day and is substantially that now obtaining. Any accumulation of arrears in the courts of the Divisional Judges could be met by the temporary appointment of additional Divisional Judges. Gradually, however, the increase in the volume of executive business and the desirability of still further evolving the separation of the judicial from the executive branch of the administration led to the withdrawal of civil judicial work from the remaining Deputy Commissioners, and separate officers have been given the powers of District Judges in all districts. The number of paid appointments of District Judge, however, has not been increased. In the meantime the increase in the volume of litigation rendered necessary an addition to the number of Divisional and Sessions Judges and four such appointments were sanctioned in 1909.

Provincial service.

95. From the first natives of India have been employed as assistants to the Deputy Commissioners under the style of Extra Assistant Commissioner, but were debarred from rising to higher rank. The experiment of throwing open high appointments in the Commission was made under an Act of Parliament of 1870 (Vict. 33, Cap. 8), constituting the Statutory Civil Service. The experiment was not successful and of the Statutory Civilians appointed under this Act, three only, chosen in 1888-90, are still borne on the cadre of the Punjab Commission.

The investigations made by the Public Service Commission of 1886 led in 1893 to the constitution of a Provincial Civil Service. The previously existing establishment of Extra Assistant Commissioners was re-arranged in seven grades of Extra Assistant Commissioners paid Rs. 250, 300, 400, 500, 600, 700 and 800 per mensem, respectively. The chief feature of the re-organization of the Provincial Service was that a certain number of appointments for which members of the Indian Civil Service or Military Officers were formerly recruited were thrown open to members of the Provincial Service. These were two appointments of Divisional Judge, two of Deputy Commissioner, two of District Judge, two of Settlement Officer and one of Junior Secretary to the Financial Commissioners. The Local Government, however, has the right to appoint to the last-named post either a member of the Provincial or of the Indian Civil Service. Two further appointments of Divisional Judge were added to the "listed" appointments when the number of Divisional Courts was increased in 1909. The listed appointments are the means of giving to the more able and deserving members of the Provincial Service the responsible employment in the administration of the country which the Statutory Service was originally designed to supply. The Statutory Civilians now hold of the listed appointments one Deputy Commissionership and two Divisional Judgeships. The remaining appointments, with the exception of that of Junior Secretary to the Financial Commissioners, are held by members of the Provincial Service.

The Provincial Service was originally arranged in one service of Extra Assistant Commissioners available for judicial or executive work, but the principle of separating judicial from executive functions and the necessity of specialisation in training has led to the gradual separation of the judicial and executive branches in the highest six of the seven grades. The pay of each grade is the same in both branches. The members of the executive branch and the combined 7th grade are still styled Extra Assistant Commissioners, but those of the first four grades of the judicial line are known as Extra Judicial Assistant Commissioners, and of the last two as Subordinate Judges.

The Provincial Service is recruited from the Tahsildar and Munsif establishments, from selected members of the various departments and by direct appointment either on nomination or by competition. The combined 7th grade of Extra Assistant Commissioner gives the authorities an opportunity of ascertaining for which line, executive or judicial, the newly-appointed members show most aptitude.

A similar system of "Imperial" and "Provincial" Services has been introduced in many of the departments.

Departments.

The Departments.

96. The principal heads of departments are the Financial Commissioners, the Chief Engineers, the Inspector-General of Police, the Director of Public Instruction, the Inspector-General of Prisons, the Inspector-General of Civil Hospitals, the Sanitary Commissioner, the Conservator of Forests, the Director of Agriculture and Industries, the Inspector-General of Registration and the Legal Remembrancer, all of whom are subordinate to the Local Government. The Accountant-General, the Postmaster-General, the Director of Telegraphs, and the Manager, North-Western Railway, whose head-quarters are in each case in Lahore, represent Imperial Departments under the Government of India.

Provincial Departments.

The Financial Commissioners.

97. A Financial Commissioner was appointed as chief authority in the Revenue Department on the abolition of the Board of Administration in 1853: and in 1865 a Settlement Commissioner was added to control settlement operations under the Financial Commissioner. One of the changes introduced in 1884 was the abolition of the Settlement Commissioner and appointment of a 2nd Financial Commissioner. In 1897, however, the old arrangements were reverted to and the appointment of Settlement Commissioner was revived in place of the 2nd Financial Commissionership, in order that adequate supervision of settlement and colonisation operations might be secured. In 1910 it was found advisable to make a further change. The Settlement Commissionership was again abolished, and a 2nd Financial Commissioner again appointed. The appointment of Excise Commissioner and Superintendent of Stamps was abolished at the same time, and control over both settlements and excise administration was to some extent entrusted to the Commissioners of divisions. The Financial Commissioners besides being the highest Court of Revenue jurisdiction, as already explained, are the Heads of the Departments of Land and Separate Revenue and of Agriculture, and control the Director of Agriculture, the Director of Land Records, the Registrar of Co-operative Credit Societies, and, in his relations with the agricultural and pastoral population, the Conservator of Forests. The Financial Commissioners are also the Court of Wards of the province.

Wards' estates.

98. Up to the year 1903 the management of wards' estates was provided for by the Punjab Laws Act (IV of 1872), under which the Deputy Commissioner of each district was his own Court of Wards with very little in the nature of law to control his action. Under Punjab Act II of 1903 the Financial Commissioner became the Court of Wards, and, among other provisions, authority has been taken for dealing with claims on encumbered estates, and it is now possible to retain estates under management on the ward coming of age. The tendency in this branch of the administration is to restrict Government intervention to the least possible. Act VIII of 1890 provides a suitable procedure for the appointment of private persons as guardians to minors and the Land Alienation Act provides protection against permanent expropriation of landed interest. There is accordingly less necessity for official interference with the management of private property.

Agricultural Department.

99. The Provincial Agricultural Department was organised on its present footing in 1903, but the first expert did not arrive until 1905. The Director is assisted by a Deputy and an Assistant Director, and the department has experimental farms at Lyallpur and Gurdáspur. The farm at Lyallpur is representative of the great western canal-irrigated tract, where wheat, cotton and toria are the staple crops: that at Gurdáspur is favourably situated for inquiry into the barani and well cultivation of the Central Punjab, where wheat and sugarcane are most important. Up to date the energies of the department have been devoted more especially to investigation and experiment on the farms. Work has been started in the districts by demonstration, but, owing to lack of establishment, both working and supervising, can only be extended very slowly. The Punjab Agricultural College and Research Institute was opened at Lyallpur in 1909, and has a staff of European Scientists as Professors and of Indian Assistant Professors. The main course in the College is in scientific agriculture and takes three years. There is accommodation for 38 students in each year or 114 in all, but so many are not forthcoming. There has been recently started a simple practical vernacular course for the sons of zamíndárs, who have passed through a primary school. This course will entail residence in the College for about six months in all at different periods of the year.

The Government Agri-Horticultural Gardens at Lahore are managed by a botanical expert under the control of the Director of Agriculture. The maintenance of public pleasure and flower grounds, the production of fruit, fruit and other trees, vegetables, flowers and seeds for sale, and the experimental cultivation of new varieties are features in the management. A botanical section of the garden to which science students at the University may resort is also maintained.

There are public gardens at Delhi, Simla. Lahore, Amritsar and Ráwalpindi, and of smaller dimensions at the head-quarters of most other districts and at the tahsils. These are managed by Municipal Committees and District Boards.

The Civil Veterinary Department.

100. The Civil Veterinary Department is under the general control of the Director of Agriculture. The department was reorganised in 1903 on the recommendation of the Horse and Mule Breeding Commission, and the staff now consists of a Chief Superintendent and four Superintendents, one for the North and South Punjab, respectively, with a large staff of Inspectors and Assistants, a third in charge of the Government Cattle Farm at Hissar, which has recently been placed under the Punjab Government, and a fourth on the investigation of camel diseases. Since the reorganisation, the Civil Veterinary Department has been able to devote its energies to the prevention and cure of disease—a subject of immense importance to the agricultural and pastoral population of the province, which hitherto had received too little attention. Great progress has already been made: the work of the department continues to expand in every direction and its popularity is evident.

The Punjab Veterinary College at Lahore is the only institution of its kind in Northern India. The results achieved by the efforts of the professorial staff have been considerable. Further development is retarded by lack of accommodation and of funds.

The Land Records Department.

101. The Director of Land Records, who has two Personal Assistants, is purely an inspecting and advising officer, the Land Records establishment, the patwari and kanungo agency, being under the control of the Deputy Commissioner of the district. The Director supervises and inspects the village records of every district and the statistical records of tahsil and district offices connected therewith, and supervises and inspects the patwari and kanungo agency of the province. On all matters of detail connected with these subjects the Director's recommendations are accepted as those of an expert specially charged with duties of a technical character.

The patwari is an inheritance from the village system of old days. A patwari is appointed for a circle consisting of one or more villages, and is under section 3 of the Land Revenue Act a "village officer" and not a Government servant. They were formerly paid from a cess on the land revenue, but in 1906 the State took over the charge and abolished the patwar cess and with it the patwar fund. The patwaris are arranged in three grades usually drawing Rs. 10, Rs. 12 and Rs. 14 or Rs. 15 per mensem, and their appointment is non-pensionable. They are required to live with their family in their circle. In addition to keeping up the records entrusted to his charge, the nature of which is given in section 4 of this chapter, the patwari is required to report to the Tahsildar any calamity affecting the land, crops, cattle or the agricultural classes, and to bring to notice alluvial and diluvial action of rivers, encroachments on Government lands, the death of revenue assignees and pensioners, progress of works made under the agricultural loans and similar laws, and the emigration or immigration of cultivators. He is expected to be ready to make surveys and field inspections, and to aid in relief of agricultural distress and in elections under the District Boards Act. It is his duty to allow any one interested to inspect his records, and he has to supply extracts from them on receipt of fees, for which a scale is provided. When revenue collections are in progress, he must furnish any information that may be required to facilitate the collections, but he himself is not permitted to take any part in the collection of the revenue. He may be called upon, under certain circumstances, to make maps to illustrate Police enquiries in cases of serious crime.

The patwari is under the immediate supervision of a circle supervisor known as the kanungo, the title of the old Muhammadan institution being thus retained. Kanungos are recruited to the extent of two-thirds of their numbers from patwaris of at least three years' service; the rest are selected. The qualifications required in the latter case are—the educational

test of having passed the Entrance examination of the Punjab University, the age limit of being under 25 years old when accepted, and a practical training by at least two years' service as a patwari or an apprentice patwari. All kanungo candidates are required to pass a departmental test and to obtain a certificate of efficiency from the Director of Land Records before they are confirmed in the appointment. Kanungos, known as tahsil office kanungos, are placed in charge of the records at the tahsil.

In each district there is a district or sadr kanungo, a promoted kanungo, who is of sufficient status to be eligible for admission to the register of Tahsildar candidates. The district kanungo is the inspecting officer of the land record work of the district, both in the field and in the tahsil offices. He himself maintains the statistical registers relating to the whole district and is responsible for the custody of all land records filed in the district office. The responsibility of the Tahsildar and his Naibs for the inspection and correctness of the work of the kanungos and patwaris is, however, not affected by the duties of the district kanungos. The kanungos are inspected by the Tahsildar and his deputy, who are expected to verify the crop entries field by field in estates subject to the fluctuating system of assessments, and 25 per cent. at least of the entries made in the record of titles of each estate. The Revenue Assistant, a member of the Provincial Service, specially charged with the work, sees that this duty is carried out properly and efficiently.

Colonies.

102. The establishment of new settlements on waste land is a work apart from ordinary district administration, but, once the colony has reached a healthy growth, its management follows the lines of ordinary routine. The existing colonies have all reached this stage, and it is only necessary briefly to detail the special appointments which have been made in the past. In the Sidhnai Colony the Deputy Commissioner of Multán was himself Colonization Officer and for the Sohág Pára and Chúnián schemes special Assistants under the Deputy Commissioners of Montgomery and Lahore were appointed. For the Chenab and Jhelum Colonies, however, an independent officer of the rank of Collector was necessary with one or more assistants. On the Chenab Canal it was found necessary to retain this officer from 1892 to 1907, but on the Jhelum Canal the eight years 1901 to 1909 sufficed. In both cases the special colony work is now carried out under the orders of the Deputy Commissioners of the various districts by members of the district staff. In the smaller schemes the Commissioner has always been the controlling officer, but on the resuscitation of the appointment of the Settlement Commissioner in 1897 that officer assumed administrative control of the Chenab Colony and subsequently, on its inception, of the Jhelum Colony also. This system was abolished on the Chenab Canal in 1909 and on the Jhelum in 1908, when the Commissioners resumed control.*

Co-operative Credit Societies.

103. In view of the passing of Act X of 1904, a Provincial Registrar of Co-operative Credit Societies was appointed in 1903 with a staff which now consists of eight Inspectors and nine Sub-Inspectors, to register, inspect and generally assist the societies, and, if necessary, to enforce a compulsory wind-up. The Punjab type of society is usually confined to a single village area and arranges its own affairs through an elected committee. The members take shares payable in ten yearly instalments and not returnable until the end of ten years. After three or four years the average bank is able to pay off the old debts of its members and to meet all their requirements. To finance the village societies central banks are being formed at the head-quarters of districts and the societies are also being grouped into unions for mutual help and inspection. A few societies have been formed in the towns principally among weavers. There are now some 1,750 societies in existence, with funds amounting to over Rs. 50 lakhs. The societies, which are beginning to pay for their Sub-Inspectors, are now controlled under Act II of 1912.

*The voluminous details of colony administration are given, generally, in the Punjab Colony Manual, 1907, and for the Chenab Colony in the Chenab Colony Gazetteer.

Excise.

104. The immediate responsibility for the excise arrangements of each district has always rested with the Deputy Commissioner, supervised by the Commissioner of the division ; general control being exercised by the Financial Commissioner. In 1888 the growing importance of excise revenue and the necessity for specialised supervision led to the appointment of a Commissioner of Excise. In 1910, most of the recommendations of the Excise Committee of 1906 having been carried into effect, the post was abolished. The preventive establishment attached to a district consists of an Inspector, with one or more Sub-Inspectors and a peon. An Assistant or Extra Assistant Commissioner is usually placed in special charge of the district administration as an Excise Officer.

The staple spirit of the province—" white rum " made from cane sugar or molasses—is manufactured in the licensed distilleries at Amritsar, Ráwalpindi Karnál, Sujánpur (Gurdáspur) and Solan (Simla Hills), which are private enterprises. The staff posted at each distillery to arrange for the levy of still-head duty and to safeguard the interests of Government consists of an Inspector and one or more Sub-Inspectors. This staff is supervised by a Superintendent of Distilleries. In matters calling for technical advice the Punjab Government has the benefit of a share in the services of the Distillery Expert appointed for the United Provinces, the Punjab, the North-West Frontier Province and Ajmer-Merwára.

Beer is brewed after European methods in licensed breweries at Simla, Solan, Kasauli, Ghora Gali (Murree Hills), Ráwalpindi and Dalhousie. Duty is levied on the quantity sold.

Imported liquor, including beer imported or brewed after European methods, is sold under wholesale and retail licenses, the fees for which are fixed, except where the retail sale is likely to compete with that of country spirit shops, in which case the license is auctioned. Licenses for wholesale vend of country spirit are issued on fixed fees, while those for retail vend are auctioned.

Poppy cultivation for the production of opium is allowed only in the Simla district and the Kulu sub-division of the Kángra district. The bulk of the opium consumed in the Punjab is manufactured at the Government factory at Gházipur, and is generally known as Excise opium. The only other licit sources of supply are imports from the Hill States under the political control of the Punjab Government and from Afghánistán. Opium produced in Kulu and Simla is subject to an acreage duty, and in the case of Simla opium a transport duty is also levied at the Kot Khai warehouse. Opium imported from Hill States pays duty in the district of import, and imports from Afghánistán in the North-West Frontier Province. For the supply of these varieties to retail vendors wholesale licenses are issued, for which fixed fees are charged. Excise opium is issued from the Government Treasuries direct to retail vendors on payment of a price, part of which represents cost of production and the remainder the duty. Licenses for retail vend are sold by auction.

Charas is imported from Yárkand to the warehouses at Sultánpur (Kángra), Hoshiárpur and Ráwalpindi, and pays duty on issue. The hemp plant grows wild in the southern Himalayan districts, and its cultivation for the production of bhang is prohibited throughout the province except under license in Dera Gházi Khan, where an acreage duty is charged. An import duty and a duty on transport from one district to another are also imposed. Licenses for wholesale and retail vend of charas and bhang are issued, the former on fixed fees and the latter by auction.

Registration.

105. Under the Indian Registration Act, 1908, Deputy Commissioners are *ex-officio* Registrars of titles for their districts and Tahsildars Sub-Registrars for their tahsils, but most of the registrations are performed by non-official Sub-Registrars. General control is exercised by the Inspector-General of Registration, an appointment held by the Director of Land Records, who is also Registrar-General of Births, Deaths and Marriages under Act VI of 1886.

Director of Industries.

106. The Director of Industries, whose appointment is amalgamated with the Directorship of Agriculture, is also Registrar of Joint Stock Companies. Under his supervision the external land trade is recorded at various posts. For internal trade the Punjab and North-West Frontier Province are divided into 5 blocks—(1) Delhi City, (2) Cis-Sutlej, (3) Sutlej-Jhelum, (4) Jhelum-Indus, (5) Trans-Indus. A record of the trade of the blocks by rail with one another and with other provinces is prepared in the different railway audit offices from the invoices of goods received. Each railway records only the statistics of its imports: the figures for the exports of each province are obtained by summing the import returns of railways outside the province. The trade of the Punjab with Sind by river is registered in the office of the Deputy Conservator and Registrar, River Indus, at Sukkur. No road-borne trade is registered in connection with the internal trade of the province. The value of the goods despatched by rail and by river is not recorded on the invoices, and consequently average values have to be assigned to each article when the accounts are prepared. The value rates received quarterly from other provinces are assigned to the imports into the Punjab from those tracts, and those ruling in this province are assigned to the exports to other provinces.

Legal Department.

107. The administration of the legal affairs of the Punjab Government is in the hands of a Legal Remembrancer (who is also Secretary to the Legislative Council), a Government Advocate and an Assistant Legal Remembrancer at head-quarters and Public Prosecutors in important districts. With the exception of the Legal Remembrancer, these officers are free to take up private practice as far as is consistent with their official duties.

Police.

108. The organisation of the police force on annexation has been explained in the historical summary. By the beginning of 1860 its strength had risen to 24,700 men and in addition there were the thagi, cantonment and canal police. In 1861 the cis-Indus police were reorganised under the Police Act (V of 1861) and in 1863 the trans-Indus, thagi, cantonment and canal police were brought under the general system: the force being meanwhile gradually but substantially reduced. The Railway Police were organised in 1869.

The present combined force is administered by the Inspector-General of Police who is assisted by a Personal Assistant. The province is divided into the Eastern, Central and Western Ranges in charge of Deputy Inspectors-General with head-quarters at Ambála, Lahore and Ráwalpindi. Each district is in charge of a Superintendent, assisted usually by one or more Assistant Superintendents. The district is divided for police purposes into circles supervised by Inspectors, and again into thanas or police station jurisdictions in the charge of a Sub-Inspector, a second Sub-Inspector being added where the average crime exceeds 100 cases a year There are, inclusive of urban police stations, 435 thanas in the province, the highest individual number being 24 in the case of Lahore district. The average police station thus embraces an area of some 230 square miles and a population of over 47,000 souls. The staff of a thana varies, but in rural circles usually consists of one Sub-Inspector, 2 head constables and 10 constables. In a fourth police range, also in charge of a Deputy Inspector-General, are included Criminal Investigation, Railway Police and the Police Training School and Finger Print Bureau. The two latter institutions are established in the Phillaur Fort in Jullundar district and are in charge of a Superintendent. The Railway Police are organised on a separate establishment from the district police. The railways guarded by the Punjab Railway Police include all the lines within the provincial boundary inclusive of Native States. The railways are divided into two districts, Northern and Southern, each in charge of a Superintendent, whose head-quarters are at Lahore where the jurisdictions meet. The establishment is, like the district police, graded among Inspectors, Sub-Inspectors, head constables and constables. The districts are divided into 41 police stations. At the present day the total police force of the province, exclusive of gazetted officers, consists of 1,075 officers and 19,974 men, practically half of whom are armed with revolvers and bored-out rifles,

respectively. About one-third of the men are able to read and write. The total number of the force gives one officer to 5 square miles of country and 1,044 persons.

On the recommendation of the Police Commission of 1902-03 a service of Provincial Police officers has been established, consisting at present of 18 Deputy Superintendents arranged in four grades. These officers are chiefly employed as assistants to the Superintendents either at head-quarters or in sub-divisions of districts and are posted to the heavier charges. They are available to take charge of districts in the case of temporary vacancies.

The criminal tribes of the Punjab are controlled under Act III of 1911, which has recently replaced an older Act with a view to affording better control of the settled and registered tribes and to authorising measures of dealing with wandering tribes and gangs. Sixteen tribes have been registered, of whom the Báwarias, Sánsis, Hárnis, Pakhiwáras, Mínas, Tagus, Bháts and Ghutkas are genuine criminal tribes, while the rest are branches of the main tribes of the province which have developed pronouncedly criminal tendencies.

Rural Police.

109. Originally a menial servant of the village community, the village watchman, was paid out of the village funds in kind or in cash. This placed him in complete dependence on the headmen as representatives of the village, and this relation was legalized in 1876 by rules under the Punjab Laws Amendment Act, XV of 1875, but the actual appointment or dismissal of the watchman was vested in the Deputy Commissioner. Village watchmen are appointed for each village or collection of villages; the beats being determined by the Deputy Commissioner. Where the village watchmen in any village are five or more, one of them may be appointed "dafadar" with extra pay. The chokidara tax is levied from all occupants of houses in the beat by a rate assessed on the annual value of the houses. In addition to their duty of watch and ward the watchmen have powers of arrest and are jointly responsible with the headmen for reporting crime. They are further charged with the duty of reporting births and deaths at the police station at the fortnightly visit which a watchman of each beat has to make to report the state of the beat. The watchmen are not as a rule armed, but in some places they carry swords or spears. The number employed in the province is approximately 30,000.

In 1893 the increasing difficulties of obtaining men for the post led to enquiry. It was found that the maximum pay, Rs. 3 per mensem, paid half-yearly, was inadequate, and that even so it was not always paid regularly. Power was taken to secure regular payment and the maximum salary was raised to Rs. 5 per mensem instead to Rs. 3. Even so the watchman is essentially a menial, generally of a low caste, almost always illiterate, and often of doubtful character. The lowness of the pay compels him to work or cultivate land to eke out a living, and his association with criminals is often alleged. It has frequently been proposed by Police Officers that these chokidars should be put more under the Police and made independent of the village headmen, but the best administrative officers have always opposed this suggestion on the ground that it would strike at the root of the principle of village responsibility. The chokidar is the servant of the headmen and should remain so: a principle re-affirmed by the Police Commission of 1902-03.

In the smaller municipal towns a body of town watchmen is frequently employed either alone or to supplement the regular force. The town watchmen are entertained under the Municipal Act and their pay is not subject to the same maximum as that of the village watchmen. The number of these men is about 150 all told.

Jails.

110. The Jail Department consists of an Inspector-General and three Superintendents of the Central Jails at Lahore, Montgomery and Multán. District jails are situated at the head-quarters of 20 of the districts in charge of the Civil Surgeon, who receives an allowance for his jail duties. The female jail is at Lahore and with the district jail is in charge of an officer of the department. At the head-quarters of 6 districts and at Rájanpur (Dera Gházi Khan) and in Kulu subsidiary jails have been established to receive and forward to their destination prisoners convicted in the district.

P. W. D. (Buildings and Roads).

111. The Buildings and Roads Branch of the Public Works Department is administered by a Chief Engineer. The province is divided into three Circles of Superintendence,—with head-quarters at (1) Ráwalpindi, (2) Ambála and (3) Lahore, respectively,—11 divisions and 29 sub-divisions. In addition the Simla Hydro-Electric division, with 3 sub-divisions, is in the superintending charge of the Sanitary Engineer. Changes in the administrative arrangements are frequent as necessitated by the varying character of the work of the department. This branch, formerly known as the Provincial Branch, is maintained from provincial funds, and its primary object is the construction and maintenance of Imperial and Provincial works; but it also assists municipalities and district boards, and important works are carried out for such bodies by the Government Engineers, a percentage being usually charged for establishment, tools and plant.

P. W. D. (Irrigation Branch).

112. The Irrigation Branch of the Public Works Department is administered by two Chief Engineers, one of whom is also Chief Engineer of Irrigation Works in the North-West Frontier Province. Two Under-Secretaries and a Personal Assistant are employed at head-quarters to deal with departmental work. The Circles of Superintendence are at present nine in number—(1) the Western Jumna Canal, Delhi, with 3 divisions and 12 sub-divisions; (2) the Sirhind Canal, Ambála, with 4 divisions and 11 sub-divisions; (3) the Upper Bári Doab Canal, Amritsar, with 6 divisions (including the Central Workshops division) and 14 sub-divisions; (4) the Lower Bári Doab Canal, Lahore, with 4 divisions and 14 sub-divisions; (5) the Deraját Inundation Canals, Multan, with 4 divisions and 11 sub-divisions; (6) the Lower Chenab Canal, Lyallpur, with 6 divisions and 19 sub-divisions; (7) the Upper Chenab Canal, Lahore, with 3 divisions and 12 sub-divisions; (8) the Lower Jhelum Canal, Jhelum, with 3 divisions and 9 sub-divisions; and (9) the Upper Jhelum Canal, Jhelum, with 6 divisions (including the Railway and Quarries division) and 21 sub-divisions. There are thus 39 divisions and 123 sub-divisions, but several of these, on the canals under construction, are of temporary character only. Previous to the provincial settlement of 1905 this Branch was an Imperial Department, but the Provincial Government now participates in the profits and bears a share in the working expenses. In addition to maintaining all the canals in its charge, the Irrigation Branch is responsible for the assessment of the water-rates leviable on irrigated areas, and, in several districts where the land revenue demand is assessed on the fluctuating principle, for the formulation of this demand on irrigated crops also. For maintenance purposes the sub-division is divided into sections in charge of overseers or sub-overseers. For revenue purposes there is a separate division into sections in charge of a zilladar, each section being sub-divided into canal patwaris' circles. The revenue establishment of a division is supervised by a Deputy Collector who is generally a 2nd class Magistrate.

Medical Department.

113. The control of the medical department of the province vests in the Inspector-General of Civil Hospitals, who also supervises the working of the Lahore Medical College and School, the Chemical Examiner's department, the Punjab Lunatic Asylum and the temporary departments of the Chief Plague Medical Officer and Chief Malaria Medical Officer. Medical work in the districts is in the charge of the Civil Surgeons, 14 of whom are members of the Indian Medical Service, the others being Military Assistant Surgeons or Uncovenanted Medical Officers chiefly Civil Assistant Surgeons. Two Civil Surgeons are posted to Simla, and during the hot weather Civil Surgeons are transferred to Murree and Dalhousie from two of the plains districts, their places being taken by Assistant Surgeons. To the more important hospitals, including railway, canal and police institutions, are attached Assistant Surgeons, in some cases assisted by Sub-Assistant Surgeons, while to the less important Sub-Assistant Surgeons only are attached. The Mayo Hospital at Lahore and the special railway, canal and police hospitals are kept up at the expense of Government, but the ordinary hospitals and dispensaries in the districts, with the establishments employed in them, are maintained by municipal or district funds. In addition, in certain cases private institutions, *e.g.*, the

Walker Hospital, Simla, and many mission dispensaries, receive grants-in-aid and submit to a certain measure of Government control including the submission of returns.

Plague.

114. For the measures adopted to combat the epidemic of plague a temporary department has for some years been organised under the Chief Plague Medical Officer. In the districts the Civil Surgeon is generally in charge of operations, but additional officers are employed from time to time as Plague Medical Officers as well as a considerable temporary staff. The principal measures on which reliance is now placed are inoculation, evacuation and rat destruction. The special staff is supplied with portable medical and surgical equipment and a large amount of medical aid is distributed by this means.

Lunatic Asylum.

115. Since the closure of the old Delhi and Lahore Lunatic Asylums in 1900, the arrangements made by the State for the custody and treatment of lunatics have been concentrated in the present Lahore Asylum, which was opened in March of that year. The superior staff consists of a Superintendent, one Military Assistant Surgeon as Deputy Superintendent, and a second as Assistant Deputy Superintendent in charge of the hospital. The female asylum is in the charge of the Franciscan Sisters, from whose devotion to their duties and sympathy with their patients the asylum has received the utmost benefit.

Leper Asylums.

116. There are leper asylums at Ambála, Baba Lakhan (Siálkot), Ráwalpindi, Tarn Táran (Amritsar) and Dharmsála. Of these the first three are managed by the American Mission, that at Tarn Táran by the Church Missionary Society, and that at Dharmsála by the District Board through the Civil Surgeon. The number of lepers annually treated in these institutions is about 600. Lepers move about the country a good deal in quest of charity, as the law does not authorise their detention against their will.

Chemical Examiner.

117. The Chemical Examiner is assisted by two Indian Assistants. Analyses are undertaken for the various departments, military as well as civil, in the Punjab, for the Punjab ~~Native~~ States, and for the Balúchistán Agency. In 1911 some extra work was performed in connection with the Delhi Durbar.

Pasteur Institute.

118. Although situated at Kasauli the Pasteur Institute of India is a private association which was incorporated in 1902. It is chiefly financed by a Government grant-in-aid and by contributions from Local Governments, Municipalities and District Boards; but it depends largely on receipts from private individuals also. The institute performs the functions of a provincial laboratory for the Punjab in consideration of special financial assistance from Government.

The Central Research Institute, also situated at Kasauli, is a separate establishment and is directly under the Government of India.

Public health.

119. The authorities concerned with public health are: (1) the Sanitary Commissioner, (2) the Sanitary Board, (3) District and Local Boards, (4) Municipalities, and (5) Cantonment Committees.

The Sanitary Commissioner, who is assisted by a Deputy Sanitary Commissioner, is the adviser of Government on all matters connected with sanitation and public health, except as regards plague and malaria, and makes sanitary inspections of towns and villages. In addition to his more technical duties the Sanitary Commissioner supervises the arrangements for the record of vital statistics and also the vaccine operations of the province. He also acts as Secretary to the Sanitary Board.

The Sanitary Board is chiefly an advisory body. It consists of the 2nd Financial Commissioner as President, the Revenue Secretary, the Secretary, Public Works Department (Buildings and Roads Branch), a Secretary, Public Works Department (Irrigation Branch), the Inspector-General of Civil Hospitals, two Indian members, the Sanitary Commissioner, the Sanitary Engineer, and the Commissioner of the division in which the meeting of the Board is held. The Board examines all important sanitary projects and advises Government

whether sanction should be granted or withheld. It also allots grants-in-aid to approved urban or rural sanitary schemes out of the annual allotment placed by Government at its disposal for the purpose.

In his capacity of technical adviser to the Board the approval of the Sanitary Engineer is required on all sanitary schemes submitted to the Sanitary Board. The Sanitary Engineer also makes inspections of completed water-works and drainage schemes in the large towns of the province. In the course of these inspections the Sanitary Engineer points out to the local bodies any defects noticed by him in the up-keep of the system, which may affect public health, and makes suggestions for their remedy. His advice is also available to local bodies on the preparation of sanitary schemes.

In the large municipalities of Lahore, Amritsar and Simla there are fully qualified Health Officers. Elsewhere supervision of sanitation is one of the duties discharged by Civil Surgeons and their subordinate Assistant and Sub-Assistant Surgeons. Epidemics other than plague are dealt with, under the general control of the Sanitary Commissioner, by the medical and vaccination staff of districts working under the orders of the Civil Surgeons.

Vaccination.

120. Though supervised by the Sanitary Commissioner, vaccination is more particularly the concern of the Deputy Sanitary Commissioner, who is Superintendent of the Punjab Vaccine Institute, and as such is responsible for the supply of vaccine lymph throughout the province. He has also directly under him a special vaccination staff employed in places for which no local staff is provided and dealing with outbreaks of small-pox anywhere in the province. Civil Surgeons have at their disposal a local staff of vaccinators under a District Superintendent of Vaccination who, when not employed on their principal duty, are available for dealing with epidemics and for checking the registration of births and deaths. Vaccinations are also performed at dispensaries by the ordinary medical staff. Ten cantonment committees entertain their own vaccinators. Under the control of the Sanitary Commissioner, five Divisional Inspectors of Vaccination and Registration are employed, who visit and inspect in turn each district of their division. Vaccination is compulsory only in those towns the municipal committees of which have adopted the Vaccination Act.

Vital statistics.

121. The compilation of the vital statistics of the province is superintended by the Sanitary Commissioner from returns submitted for each municipality and district by the Civil Surgeons. In rural areas the village watchman is charged with the duty of reporting occurrences in his beat, which he does fortnightly to the police stations in whose jurisdiction his beat lies. In towns the Municipal Act imposes on house-holders and others the duty of reporting births and deaths to the municipal registrars. Besides being checked by the sanitary and vaccination staff, the birth and death registers are also inspected by Tahsildars and Naib Tahsildars.

Education.

122. The department controlled by the Director of Public Instruction consists of an Inspector of Schools in each civil division, with two or more assistants, and a District Inspector with assistants in each district. There are, in addition, two Inspectresses of Girls' Schools and an Inspector of European Schools. The training establishments include the Central Training College at Lahore and a Training Class for European Teachers at Sanáwar (Simla Hills). Normal schools for men are established at the head-quarters of each division and for women at Lahore. Other Government educational institutions are the Government College at Lahore with a large professorial staff, the Government High Schools located as a rule at the head-quarters of each district, and the Lawrence Military Asylum, Sanáwar. More specialised institutions are the Mayo School of Art, the Clerical and Commercial School at Amritsar, and the Railway Technical School at Lahore. The Reformatory School at Delhi also is controlled by the Director of Public Instruction in his capacity of Inspector-General of Reformatory Schools.

Some account of the Punjab University and of the system of Public Instruction generally will be found in chapter VII.

Forests.

123. The Forest Department is organised in twelve territorial divisions, one of which comprises the leased forests of Bashahr State, the only forests in the Punjab Native States now directly controlled by the Local Government. The Direction and Resin Divisions also form separate charges. The divisions are in charge of Deputy or Assistant Conservators, either of the Imperial or Provincial Services, under the control of the Conservator. The total area administered by the Forest Department is 8,359 square miles in British territory and 364 square miles in Bashahr, but 1,000 square miles are desert and 500 square miles inaccessible rock and snow. The area of Reserved Forest under the Forest Act (VII of 1878) is 1,844 square miles: of Protected Forests 5,203; and of Unclassed Forests 1,312. An area of 105 square miles of reserved forest is under the Military authorities.

Municipalities.

124. In some form or other municipal administration has existed in the Punjab since annexation and by 1864 there were 49 committees, of which 28 had elected members. These municipalities had been constituted under the executive authority of Government, but doubts having arisen as to their legal status the first Municipal Act for the Punjab was passed in 1867. A more comprehensive Act followed in 1873, under which 8 first class, 17 second class and 165 third class committees were constituted, controlled by the Local Government, the Commissioner or Deputy Commissioner according to their class. A new Act was passed in 1884 introducing the elective principle, widening the sphere of municipal activity and recognising two classes of municipality only. In consequence 41 of the smaller committees were abolished between 1885 and 1887. An amended Act was passed in 1891 which reformed the system of taxation and provided a simple form of government for towns known as "notified areas" which it is inexpedient to constitute regular municipalities. Amendments of this Act followed in 1896, 1900 and 1905, and it has now been replaced by Punjab Act III of 1911. In this Act certain faults of drafting and arrangement have been removed and doubts felt as to the meaning of the legislature resolved. The advance which has taken place in the ideals of Local self-Government in the twenty years that have elapsed since the previous enactment has made it necessary to grant to municipalities and to the Local Government more extended powers over matters affecting the health and comfort of the public.

District Boards.

125. Prior to 1871 each district had a district committee which was merely an advisory body. The rules under the Local Rates Act of that year made these committees administrative bodies. In 1883 Lord Ripon's Act extended the elective principle to district boards and under it local boards also were established in tahsils. These, however, were soon found to be superfluous and have been gradually abolished in most districts. The district fund is mainly derived from the local rate, which is a cess on the land revenue of the district, supplemented by grants from Provincial funds. The expenditure is chiefly on the maintenance of schools and dispensaries, vaccination, roads and rest-houses, arboriculture, ferries, cattle-pounds, horse-breeding and horse and cattle fairs. The necessity of conforming to departmental rules leaves little scope for local initiative. There are 28 district boards, excluding Simla, where the Deputy Commissioner exercises the powers of a district board. Elsewhere the Deputy Commissioner is nearly always *ex-officio* President. Four districts still have local boards, 17 in number.

Imperial Departments.

Post Office.

126. The districts and States of the Punjab (except the States of Chamba, Jínd, Nábha and Patiála which have their own postal arrangements) form, together with the North-West Frontier Province, Balúchistán and Kashmír, one postal circle with head-quarters at Lahore, under the Postmaster-General of the Punjab and North-West Frontier Postal Circle, assisted by a Deputy Postmaster-General and three Personal Assistants. The province is divided into nineteen postal divisions in charge of Superintendents. Up to the year 1906, in addition to the Imperial post, there existed a local or district post, a substitute for the posts which landowners originally were bound to maintain for the conveyance of official correspondence in each

district. This personal obligation was replaced by a cess on the land revenue which in 1883 was merged in, and became part of, the local rate. In 1906 the cess (which averaged some Rs. 1½ lakhs per annum) was abolished and the district post system was amalgamated with the Imperial post.

Telegraphs.

127. The Punjab Native States are included with the British districts in the arrangements for telegraphic communication, and the whole province with the North-West Frontier Province, Kashmír and a portion of Balúchistán is comprised in the Punjab Circle with head-quarters at Lahore, in the charge of a Director, assisted by a Deputy Superintendent. The circle is divided into the Lahore, Ambála, Quetta and Ráwalpindi divisions, the last embracing the Frontier Province and Kashmír. Each division is in charge of a Superintendent and at times an Assistant Superintendent is also attached. Subordinate to the above, Deputy Superintendents of the general and traffic branches are placed in charge of or attached to the more important offices as occasion requires.

Railways.

128. Five separate administrations operate the railways of the province, but of these the Great Indian Peninsula Railway works only the 60 miles of the State-owned Agra-Delhi Chord line from near Kosi to Delhi, which was opened in November 1904; and the East Indian Railway the Delhi-Ambála-Kálka Railway Company's main line Delhi to Kálka opened in March 1891 and branch Thánesar to Kaithal opened in December 1910, with a total mileage of 193 miles. The Punjab mileage of the Jodhpur-Bikáner metre gauge railway system is even smaller as only 22 miles of the main line opened in September 1902, and 31 miles of the Hissar extension opened in July 1911, lie within provincial boundaries. The Bombay, Baroda and Central India Railway Company, which has running powers over the Muttra-Delhi section of the Agra-Delhi Chord line, giving the administration access on the standard gauge direct from Bombay to Delhi, also works the Rájpútána-Málwa Railway metre gauge system, of which 68 miles of the main line of the Rájpútána section, Ahmadabád to Delhi, opened in February 1873; the whole of the Rewári-Bhatinda-Fázilka section, 262 miles, opened between March 1883 and January 1885; 46 miles of the Rewári-Phulera Chord, opened throughout in May 1905; and the 7 miles of the Farrukhnagar Branch in Gurgaon district are in the Punjab. With the above exceptions the railways of the province are operated by the North-Western (State) Railway administration, which combined in 1886 the earlier Sind-Punjab and Delhi (1861), the Punjab Northern (1875), the Indus Valley and Kandahár (1878), and the Amritsar-Pathánkot (1884) administrations. The first section of railway opened in the Punjab was the 32 miles, Amritsar to Lahore, of this administration, which began working on April 10th, 1862. In addition to the State lines proper the North-Western Railway works in the Punjab (1) the Kálka-Simla State line; (2) for private companies, the Amritsar-Patti and Southern Punjab Railways (including the Ludhiána extension and Sutlej Valley Railway); and (3) for Native States, the Ludhiána-Dhuri-Jakhal (Jínd and Máler Kotla), the Rájpura-Bhatinda (Patiála) and Khánpur-Chachrán (Baháwalpur) lines. At the close of the year 1911 the Punjab mileage of the North-Western Railway, with dates of original through opening, was as follows:—

	Miles.	*Years.*
MAIN LINE.		
South to Lahore ...	231	1870
Lahore to west ...	418	1878
Lahore to north ...	242	1880
BRANCHES.		
Golra-Básal ...	47	1881
Amritsar-Pathánkot ...	67	1884
Rájpura-Bhatinda ...	107	1889
Sind-Ságar ...	342	1890
Siálkot (1884)-Jammu Frontier ...	36	1890
Ráewind-Ferozepore ...	33	1892
Southern Punjab, main line ...	400	1897
Narwána-Kaithal ...	23	1899

	Miles.	*Years.*
BRANCHES—*concld.*		
Kundián-Campbellpur ...	120	1899
Ferozepore-Bhatinda ...	55	1899
Wazírabad-Khánewál ...	201	1900
Ludhiána-Jakhal ...	79	1901
Kálka-Simla ...	59	1903
Ludhiána-Macleod Ganj	152	1906
Jech Doab ...	149	1906
Sháhdara-Sángla ...	55	1907
Khánewál-Lodhrán ...	56	1909
Amritsar-Patti (1906)-Kasúr ...	54	1910
Kasúr-Lodhrán ...	208	1910
Khánpur-Chachrán ...	22	1911
Chichoki-Shorkot Road	136	1911
Under 20 miles ...	62	

With the exception of the Kálka-Simla line, which is on the 2′ 6″ gauge, all the lines worked by the North-Western Railway are on the standard gauge. The doubling of the main line has been taken in hand, and by the end of 1911, 150 miles of double track were in use south of Lahore, 4 miles north and 153 miles west.

There are 4,043 miles of railway in operation in the Punjab, of which 307 miles are double track.

Accounts.

129. The accounts of the Provincial Civil Departments are audited by the Accountant-General, Punjab, who is also Commissioner of Paper Currency, assisted by two Deputy and seven Assistant Accountants-General. The transfer of the audit of the accounts of the Buildings and Roads and Irrigation Branches of the Public Works Department to the Accountant-General has only recently taken place, the separate office of the Provincial Examiner of Public Works Accounts having been abolished in 1910. A separate branch conducts the audit of Local Funds Accounts under the supervision of an Examiner. The Government cash balances are kept in Government treasuries at the head-quarters of districts in the charge of the Deputy Commissioners; except at Lahore, Delhi and Simla, where the balances are kept at the agencies of the Bank of Bengal. Sub-treasuries, subordinate branches of the treasury at district head-quarters, are located at each tahsil head-quarters and are in charge of the Tahsildars. For the management of the Paper Currency a Currency Office with Remittance Treasury is established at Lahore, with currency agencies or currency chests at the head-quarters of each district. The agencies are practically branches of the Currency Office, exchanges of notes for cash and *vice versâ* with the public being made by the officer in charge on his own responsibility. The currency chest is purely for the deposit of surpluses withdrawn from the treasury. In practice on the transfer of surplus funds from a local treasury to its currency, a corresponding amount of notes are put into circulation by transfer from the currency to the remittance treasury at Lahore. If the balance so accumulated is required in any part of India, the transfer is accomplished under the orders of the Comptroller-General by replacing the notes in the currency, thus setting free a corresponding sum in coin from the currency reserve of some other province. The Punjab, however, from a resource point of view is deficit every year owing to the large military payments and to the presence of the Imperial Government at Simla. This fact of course has no relation whatever to the equilibrium or otherwise of the provincial finances.

Army Remount Department.

130. The present arrangements for horse, mule and donkey breeding are the outcome of the recommendations of the Horse and Mule-breeding Commission, which submitted its report in July 1901. Briefly the Commission found that under the direction of the Civil Veterinary Department Government funds were being wasted, in that efforts were being made to improve the breed of horses and mules in districts where no hope of success could be entertained, and that in some cases a type of horse was being evolved unsuitable for the needs of the Army, in whose interests primarily the funds were voted. As a result the sphere of Government operations was confined to the thirteen selected districts of Ráwalpindi, Attock, Jhelum, Gujrát, Shahpur, Jhang, Lyallpur, Gujránwála, Lahore, Multán, Dera Gházi Khan, Amritsar and Ferozepore, and since May 1st, 1903, the control of operations connected with horse, mule and donkey breeding, whether with Imperial or district board stallions, has been transferred to the Army Remount Department. District board and private horse-breeding elsewhere is looked after by the Civil Veterinary Department as before, but in the selected districts it was obviously necessary to place all operations under one authority. With the exception of the Government donkey stud at Mona, and the establishment at the Government Farm in Hissar, the breeding is in the hands of private persons or regiments, the service of both Imperial and district board stallions being given free for approved mares.

The department is a branch of the Quartermaster-General's Department, and as such under the control of the Commander-in-Chief. The administrative head is the Director General, Army Remount Department.

The districts are divided into the Ráwalpindi, Jhelum Colony, Chenab Colony and Lahore circles. Depôts, with which, however, the provincial administration has no concern, are maintained at Mona and Sargodha, both in the Jhelum Colony. The circles are in the charge of a Superintendent, a Military officer of the Remount Department, with whom is associated a Veterinary Officer, who is selected from the Commissioned Officers of the Army Veterinary Corps, and in the important Jhelum Colony Circle by an Assistant Superintendent, also an officer of the department. The Superintendent is assisted by a native officer from a cavalry regiment of the Indian Army and the Veterinary Officer by a Veterinary Inspector, a trained Veterinary Surgeon of standing corresponding to that of the native officer. Each circle is divided into sub-divisions known in the colonies as zails (not coterminous with revenue zails), each of which is in charge of a Veterinary Assistant and includes the stables supervised by a jamadar. These jamadars are as far as possible graduates of the Punjab Veterinary College.

Salt.

131. The operations in the Punjab connected with the levy of the tax on salt are under the control of the Commissioner, Northern India Salt Revenue, Agra. The department is not under the control of the Local Government, and the income and charges do not come upon the provincial estimates. The departmental staff employed in the province consists of an Assistant Commissioner with head-quarters at Khewra (Jhelum district), 5 Superintendents, and 3 Assistant Superintendents. There is also one Superintendent in charge of the Sultánpur Salt Works in the Gurgaon district and an Assistant Superintendent in the Dera Gházi Khan district. These two officers are under the Assistant Commissioner, Upper Division, Internal Branch, Agra. Under section 30 of Act XII of 1882 all Deputy Commissioners in the Punjab are invested with the powers of an Assistant Commissioner, all Assistant and Extra Assistant Commissioners with the powers of a Superintendent, all Tahsildars and Naib Tahsildars in separate charge of tahsils with the powers of an Inspector, and all subordinate tahsil officials with the powers of a Salt Revenue officer inferior in rank to an Inspector.

Archæology.

132. The archæological treasures of the Punjab are under the care of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore, and of the Superintendent, Muhammadan and British Monuments, Northern Circle, Agra. For the repair and conservation of the Monuments the assistance of the Buildings and Roads Branch of the Public Works Department is invoked where necessary. The Provincial Museum is at Lahore, and contains Græco-Buddhist sculptures of more than local reputation as well as a fine collection of coins. The Delhi Museum of Archæology located in the Mumtaz Mahal is under the control of the Archæological Department.

4. CHARACTER OF LAND TENURES AND SYSTEM OF SURVEY AND SETTLEMENTS.

LAND TENURES.

General.

133. The subject of land tenures, in a province of which the various parts differ so widely both physically and in respect of the races which inhabit them as in the Punjab, is one which it is almost impossible to treat satisfactorily in the brief space that can be allotted to it in an Administration Report. The settlement reports of the province contain full and minute information on the subject, and the student of land tenures in the Punjab can obtain a thorough knowledge of them only by a careful study of these reports. This is particularly the case as regards the land tenures of the districts in the south-west of the province, in which examples of peculiar tribal tenures are to be met with which can hardly be explained with brevity and at the same time with correctness. These are generally tinged with a feudal spirit, and often take the form of rights of overlordship, or claims to receive services retained by tribes which are or were once dominant over other bodies of cultivators who are now sub-proprietors. A fuller sketch of the general tenures of the

province than can be conveniently embodied in the pages of an Administration Report will be found in the Punjab Land Administration Manual.*

Proprietorships.

134. Taking the British districts of the province as a whole it may be estimated that about one-sixth of the area is the property of Government, the remaining five-sixths belonging to private owners. A large part of the area belonging to Government is so situated that it cannot be brought under cultivation without the aid of extensive works of irrigation. The Lower Chenab Canal irrigates some 1,900,000 acres of what was formerly Government waste land and the Lower Jhelum Canal an additional 360,000 acres. The Lower Bari Doab Canal now approaching completion will command an additional area of Government waste. Large areas in the hills and elsewhere, which are unsuited for cultivation, are preserved as forest or grazing lands, and others in addition to the colony lands are held under lease from Government for purposes of cultivation. The proportion of cultivated land owned by Government to that owned by private individuals is at present about one to twelve.

Land Revenue.

135. All land is held subject to the payment of land revenue to the State, or to grantees holding from the State, unless such liability has been redeemed or compounded for, and this revenue at present exceeds Rs. 314½ lakhs per annum, of which more than Rs. 29½ lakhs are received by assignees who had, on various grounds, claims to consideration from Government. In some cases these assignments are of the nature of the release of the revenue of lands belonging to the assignees, but have no necessary connection with proprietary right; and in the majority of instances the grantees are merely entitled to receive the revenue payable to Government, the amount of which is limited in the same way as if it were paid direct to Government.

Succession.

136. The ordinary rule of succession which obtains in the Punjab is one by which all male issue of a deceased holder of ancestral property divide that property *per capita* and equally. The effect of this rule, as applied to the succession to an assignment of land revenue, had threatened to result in such minute sub-division of the original assignment as to seriously imperil its political utility. An Act has accordingly been passed (The Punjab Descent of Jagirs Act, Punjab Act IV of 1900) which enables the Local Government to take steps with a view to confining the succession to such assignments to a single heir as impartible property.

Rights of alienation.

137. While the unhampered exclusive use of property in a man's possession, whether ancestral or acquired, for his lifetime, with a free disposal of the income, is not denied, freedom of alienation whether by gift or bequest is, in regard to ancestral immoveable property, subject in most cases to certain restrictions. The prevailing sentiment is that as regards such property in the hands of any individual, there exists some sort of residuary interest in all the descendants of the first owner, or body of owners, however remote and contingent may be the probability of some among such descendants ever having the enjoyment of the property. In short, the owner in possession is not regarded as having the sole interest in the property and power to dispose of it, so as to defeat the expectations of those who are deemed to have a residuary interest. It is, however, recognised that in case of legitimate necessity the possessors of the residuary interest have no power to object to an alienation of ancestral immoveable property by the owner in possession.

Land Alienation Act.

138. In addition to the above-mentioned customary restraints on the full power of an owner to deal with property in his possession the Alienation of Land Act of 1900 restricts by statute the alienation of agricultural land in the Punjab. The fatal facility with which the agricultural tribes of the Punjab had got into the clutches of money-lenders, resulting in the course of time in the reduction in their status from proprietors to tenants, had long been marked and remedies discussed for arresting this tendency. The outcome of years of discussion was Act XIII of 1900, which limits the free transfer of landed property by persons who are declared to be members of

* By J. M. Douie, I.C.S., published at the *Civil and Military Gazette* Press, Lahore, 1903.

agricultural tribes to members of the same tribe or of a tribe in the same group. Transfers of land by such people to others not so specified require the consent of the Deputy Commissioner, for whose guidance explicit rules have been laid down. The Act also places restrictions on mortgages to non-agriculturists. The original Act permitted free transfers to "agriculturists," an "agriculturist" meaning a person holding agricultural land either in his own name or that of an ancestor in the male line as an owner or hereditary tenant from the time of the first regular settlement of the district in which the land is situate or from such other date as Government may determine. This power was taken away by an Amending Act in 1907. The Act has been sympathetically administered, and has so far fulfilled the hopes with which it was framed. Opposed of course by the classes against whose acquisitive activities it was directed, it has been acquiesced in both because of its popularity with the preponderant agricultural population whom it protects from the effects of their ignorance and folly and also because of the opening of new spheres of investment in the development of which it has been the care of Government to assist. Fears that agricultural credit would be destroyed have proved groundless, and the price of land now stands far higher than even before the passing of the Act.

Rights of Pre-emption.

139. The great mass of the landed property in the Punjab is held by small proprietors, who cultivate their own land in whole or in part. The chief characteristic of the tenure generally is that these proprietors are associated together in village communities, having to a greater or less extent joint interests and, under our system of cash payments limited so as to secure a certain profit to the proprietors, jointly responsible for the payment of the revenue assessed upon the village lands. It is an incident of the tenure, that if any of the proprietors wishes to sell his rights, or is obliged to part with them in order to satisfy demands upon him, the other members of the same community have a preferential right to purchase them at the same price as could be obtained from outsiders.

Punjab Pre-emption Act.

140. The recasting of the law of pre-emption was one of the corollaries to the passing of the Punjab Alienation of Land Act. The new law came into force as Punjab Act II of 1905, its chief aim being to prevent a non-agriculturist when he has once gained a footing in a village community from buying up other shares in the village as they come into the market and so expropriating the true agriculturist and breaking up the village community. The pre-emption law is admittedly unsatisfactory, and gives rise to abuses, particularly in the form of bogus threats by persons with rights of pre-emption to enforce those rights when a sale of land is in question. A considerable body of opinion is now in existence especially among judicial officers that the time has come to sweep away the whole system as an archaic survival no longer in keeping with modern conditions.

Zamindari Tenures.

141. In some cases (technically known as zamindari tenures) all the proprietors have an undivided interest in all the land belonging to the proprietary community; in other words, all the land is in common, and what the proprietors themselves cultivate is held by them as tenants of the community. Their rights are regulated by their shares in the estates, both as regards the extent of the holdings they are entitled to cultivate, and as regard the distribution of profits, and if the profits from land held by non-proprietary cultivators are not sufficient to pay the revenue and other charges, the balance would ordinarily be collected from the proprietors according to the same shares

Separate holdings.

142. It is, however, much more common for the proprietors to have their own separate holdings in the estate, and this separation may extend so far that there is no land susceptible of separate appropriation which is not the separate property of an individual or family. In an extreme case like this the right of pre-emption and the joint responsibility for the revenue, should any of the individual proprietors fail to meet the demand upon him, are almost the only ties which bind the community together. The separation, however, generally does not go so far. Often all the cultivated land is held in separate ownership, while the pasture, village site, roads, ponds or tanks, &c., remain in common. In other cases land cultivated by tenants is the common property

of the community, and it frequently happens that the village contains several well-known sub-divisions, each with its own separate land, the whole of which may be held in common by the proprietors of the sub-division, or the whole may be held in severalty, or part in separate ownership and part in common.

Pattidari and Bhaiachara Tenures.

143. In those communities (technically known as bhaiachára and pattidari) with partial or entire separation of proprietary title the measure of the rights and liabilities of the proprietors varies very much. It sometimes depends solely upon original acquisition and the operation of the laws of inheritance; in other cases definite shares in the land of a village or sub-division different from those which would result from the law of inheritance have been established by custom; in other cases reference is made not to shares in the land, but to shares in a well or other source of irrigation; and in the majority of cases in the east and south-east of the Punjab no specified shares are any longer acknowledged, but the area in the separate possession of each proprietor is the sole measure of his interest. Where the rights and liabilities are determined according to certain known shares the tenure is known as pattidari, where possession is the measure of each man's right and liability it is called bhaiachára. It is sometimes the case, however, that while the separate holdings do not correspond with any recognized shares, such shares will be regarded in dividing the profits of common land, or in the partition of such land, and wells are generally held according to shares, even where the title to the land depends exclusively on undisturbed possession.

Village communities.

144. Throughout a great part of the province the organization of the proprietors of land into village communities has existed from time immemorial, and is the work of the people themselves, and not the result of measures adopted either by our own or by previous Governments. Indeed, these communities have sometimes been strong enough to resist the payment of revenue to the Government of the day, and before our rule nothing was more common than for them to decide their disputes by petty wars against each other, instead of having recourse to any superior authority to settle them. But in some localities the present communities have been constituted from motives of convenience in the application of our system of settlement. Thus in the Simla hills and in the more mountainous portions of the Kángra district the present village communities consist of numerous small hamlets, each with its own group of fields and separate lands, and which had no bond of union until they were united for administrative purposes at the time of the land revenue settlement. In the south-western districts, again, while regular village communities were frequently found in the fertile lands fringing the rivers, all trace of these disappeared where the cultivation was dependent on scattered wells beyond the immediate influence of the river. Here the well was the true unit of property, but where the proprietors of several wells lived together for mutual protection or their wells were sufficiently near to be conveniently included within one village boundary, the opportunity was taken to group them into village communities. These arrangements were made possible by the circumstance that the village community system admits of any amount of separation of the property of the individual proprietors, and by care being taken that in the internal distribution of the revenue demand it should be duly adjusted with reference to the resources of the separate holdings. They also in general involved the making over in joint ownership to the proprietors of the separate holdings of waste land situate within the new boundary, in which no private property had previously existed.

Quit-rent payments.

145. In some cases the village communities, while holding and managing the land as proprietors (adna málik), are bound to pay quit-rent to the superior proprietors (ala málik), under whom they hold. The settlement is now required to be made in such circumstances with the communities in actual possession of the land, who pay the land revenue to Government and the quit-rent to the superior proprietor, but in special cases the Financial Commissioners may order the settlement to be made with the superior proprietor. The amount which the superior proprietor is entitled to collect is determined at settlement as well as the amount of the land revenue demand.

Limited proprietors.

146. There are sometimes also proprietors holding lands within the estates of village communities, but who are not members of the communities, and are not entitled to share in the common profit, nor liable for anything more than the revenue of their own lands, the village charges ordinarily paid by proprietors, and the quit-rent, if any, payable to the proprietary body of the village. The most common examples of this class are the holders of plots at present or formerly revenue-free, in which the assignees were allowed to get proprietary possession in consequence of having planted gardens, or made other improvements, or because they had other claims to consideration on the part of the village community. In the Ráwalpindi division also it was thought proper to record old-established tenants, who had never paid anything for the land they held but their proportion of the land revenue and village expenses, and had long paid direct to the collectors of the revenue, but were not descended from the original proprietary body, as owners of their own holdings, while not participating in the common rights and liabilities of the proprietary community. Except in the Jhelum and Ráwalpindi districts, where a small quit-rent was in some case imposed, these inferior proprietors, called "málik kabza," were not required to pay anything in excess of their proportion of the Government revenue and other village charges. In Gujrát, at the time of the first regular settlement, this class held no less than 10 per cent. of the total cultivated area, and in Ráwalpindi it paid 9 per cent. of the revenue. In Ráwalpindi the persons recorded as proprietors of their own holdings only were in some cases the representatives of the original proprietary body, jágirdars having established proprietary rights over what were formerly the common lands of the village.

Chakdars and Sillhadar

147. In Multán, Muzaffargarh, Dera Gházi Khan, Jhang and in parts of some other districts in the south-west of the Punjab, a class of proprietors, distinct from the owners of the land, is found under the name of chakdars, sillhadars, tarradadgars or kasúrkhwars. These are the owners of wells, or occasionally of irrigation channels, constructed at their expense in land belonging to others. They possess hereditary and transferable rights, both in the well or irrigation-channel and in the cultivation of the land irrigated from it, but may be bought out by the proprietor repaying the capital they have expended. They are generally entitled to arrange for the cultivation, paying a small fixed proportion of the produce to the proprietor, and being responsible for the Government revenue. Sometimes, however, the management of the property has been made over to the proprietor, who pays the Government revenue, and the chakdar receives from him a fixed proportion of the produce called "hakk kasúr," or a third party may manage the property, paying the Government revenue and the hakk kasúr, out of which the chakdar pays the proprietor's allowance. In Ráwalpindi also there is a small class of well proprietors in the position of middlemen, paying cash rent to the owner of the land and receiving a grain rent from the cultivator.

Tenants' tenures.

148. Tenancies, other than those of Government tenants in the Punjab, naturally fall into three great divisions, *viz.*, (1st) those which are held by tenants with rights of occupancy under the Punjab Tenancy Act (XVI of 1887); (2nd) those which are held under decree of court, lease, or other special agreement, and (3rd) those which are held as tenancies-at-will. These groups may be further sub-divided by the nature of the rent paid, or in the case of tenants with rights of occupancy according to the particular section of the Punjab Tenancy Act under which these rights are held.

Description of tenancies.

149. The rents of tenants with rights of occupancy are liable to enhancement or reduction in accordance with fixed rules which are embodied in the Tenancy Act. And so long as the appointed rent is paid, the occupation of the tenant cannot be disturbed. This tenant right is inheritable by male lineal heirs, by the widow and by male collateral heirs, provided that in the case of the latter the common ancestor occupied the land; and subject to certain restrictions it is also transferable, although in practice it is not very often actually transferred. The widow inherits only a life interest in her deceased husband's holding. Moreover, next to the proprietors, tenants with a right-of-occupancy,

have a pre-emptive claim to purchase any land offered for sale in the village in which their holdings are situated. Tenants-at-will are so far protected that they cannot be ejected save after issue of notice through a court of law. These notices are only issued at particular seasons of the year, and opportunity is given to any tenant who wishes either to contest his liability to ejectment or to claim compensation for unexhausted improvements as a condition precedent to relinquishment of the land to do so. The right to compensation is also regulated by fixed rules embodied in the Tenancy Act.

Tenures of Government waste lands.

150. The management of the immense waste areas of the territory included in the province forms a long chapter in the history of the provincial administration. These areas are mainly owned by the State, but a not inconsiderable amount is included in proprietary estates, and the present Revenue Act still empowers the Local Government to step in and proceed to develop such areas for the benefit of the community under certain conditions. The earliest attempt in the Punjab to colonise waste land was the grant of sukhlambari grants in Hariána and Bhattiána in 1818 to disbanded troopers with the object of forming a military colony in this disturbed area and so keep open a western route to the existing frontier. The state of the country did not prove tempting to settlers, and this experiment resulted in failure. On annexation for a period of over 35 years the policy as regards these waste areas was to encourage the breaking up of waste by the grant of leases on easy terms, on the understanding that, on fulfilment of the terms of the lease as regards the bringing of land under cultivation, ownership would be conceded free or practically free of charge. This policy underlay the lease rules of 1850, 1868 and 1882 and the sale rules of 1863, 1865, 1876 and 1882 were influenced more by the desire of Government to extend cultivation than by any general demand for land. The comparatively small amount of land actually alienated by the State is evidence that the liberal terms offered were not unjustified. Even the lease rules of 1885 permitted purchase on extremely liberal terms, but in view of the imminence of great extensions of canal irrigation in the State-owned waste the operation of these rules was speedily restricted. New rules, however, were not issued until 1897; and do not apply to areas likely to be colonized Under these rules a right of occupancy is in general the only permanent right which the lessee can acquire.

Colony tenures—General.

151. The first leases granted to the pioneer settlers of the Sidhnai (Multan) and Sohag Para (Montgomery) colonies (1886-88) were modelled on the rules for the lease of Government waste lands sanctioned by the Government of India in 1885, and gave the lessee the option of purchasing proprietary rights in his holding, at a very moderate price. The experience gained led to doubts as to the advisability of allowing unrestricted powers of alienation to the colonists, and in 1890 the Supreme Government suggested the grant in future of an inalienable right of occupancy rather than of an alienable proprietary right, as more in accordance with the real interests of colonists: and in the Chenab Colony scheme permanent rights of tenancy became the ultimate form of tenure contemplated for the "peasant" class, the vast majority of the colonists. Provision was, however, made for the creation of proprietors in the "yeoman" and "capitalist" classes of nazarána-paying grantees, and by the sale of land by public auction. The magnitude of the Chenab colonisation scheme and unsuitability of the existing law to the novel conditions led to the Government Tenants (Punjab) Act III of 1893: the main object of which was the simplification of the execution of contracts between the State and its tenants. Registers of tenancies were to be maintained, signatures to the entries in which validated the status of the grantees. The rights of tenants were protected from attachment or sale in execution and transfer by sale, gift, mortgage or other private contract without the consent of the Financial Commissioner was prohibited. Statements of conditions under the Act replaced the old leases and defined the terms of the contract.

Chenab tenures.

152. On the Lower Chenab Canal the peasant colonists received tenancies for 20 years with the free grant of occupancy rights at the expiration of five years from the date of lease: provided its conditions had been observed. The yeomen and capitalists were charged a fine or nazarána on entry, and were given the option of purchase after five years' occupation if they reduced a fair proportion of the grant to cultivation and fulfilled the conditions. The old

Chunian Colony (Lahore) was allotted in 1897 on the same terms, but only peasant grantees were selected. The desire to rescue from extinction the herds of camels which were gradually disappearing before the advancing plough led to the camel service conditions on the Lower Chenab Canal; the grant in these cases depending on the maintenance of a camel fit for State service. The principle of the impartibility of these grants became an essential feature, and a rule of restricted succession was sanctioned, power being reserved to select an heir on the demise of the colonist.

Jhelum tenures.

153. The success of the peasant class in the Chenab Colony led to the conviction that it would be to the interest both of Government and of all classes of grantees if only occupancy rights were granted. Accordingly in the Jhelum and Chunian extension colonies while the classes of peasants, yeomen and capitalists were in essentials maintained, the tenures of all were restricted to occupancy rights. The nazarána-paying grantee obtained his rights on entry after payment of one instalment of nazarána, the peasant after five years: without payment if bound by horse-breeding conditions, otherwise on payment of a nominal charge. The Jhelum colony is in the main allotted to colonists on horse-breeding conditions: this being due partly to the success of the camel-breeding conditions on the Chenab Canal and also to the recommendations of the Horse and Mule Breeding Commission of 1901. The tenant is in such cases bound to maintain and breed from a mare approved by Government. In the Jhelum Colony conditions stereotyped rules of primogeniture replace the previous undefined power of selecting an heir, and these rules were made applicable to the nazarána-paying grantees not bound by service conditions as well as to all service grantees.

Special tenures.

154. Small grants have been made in most colonies on condition of maintaining nurseries or planting trees, and it is customary to allot small areas in each village to be held at will by the village menials or kamíns under the management of the headmen of the village. To increase the status of the headman himself more particularly in peasant villages it has been found advisable to allot a holding usually of some 28 acres to each headman, tenable with the office of lambardar. In the Chenab Colony with few exceptions these lambardari grants are held on mule-breeding conditions, the lambardar being bound to maintain and breed from an approved mare fit for breeding mules for the army. In all peasant villages of the main colonies an area, misnamed chirágah or grazing ground, is reserved from allotment. The area varies according to the period at which allotment was made, from 20 per cent. of the village area in early allotments to 10 per cent. in recent colonisation. The chief advantages derived in practice from the chirágah are the preservation of an open space for the various domestic needs of the villagers, the supply of a little timber and fuel for the village and the provision of an area from which unforeseen demands for allotment can be met.

Change of policy.

155. The question of the colony tenures was one of the subjects considered by the Colonies Committee of 1908, which recommended that all colonists not bound by service conditions should be permitted to acquire proprietary rights on purchase. This complete reversal of the previous policy has been accepted by the Local and Supreme Governments, and proprietary rights can now be obtained in all colonies with the exception of the Jhelum Colony on the expiry of 10 years from date of entry. The concession, which was undoubtedly believed to be in accordance with the wishes of the colonists, has been made possible by the passing of the Alienation of Land Act, which secures in another way the result which the restriction of the peasant's right to an inalienable right of occupancy was intended to achieve.

Cultivating occupancy.

156. The rent paid by Government tenants usually takes the form of the land revenue, which is payable by owners generally, *plus* an additional málikána. This málikána is everywhere so small that the Government tenant's power of subletting his land is scarcely less than that of the owner elsewhere: and his economic position is for all practical purposes the same. To make the statistics for cultivating occupancy of any practical use it has, since the development of the Chenab Colony, been found necessary to class Government tenants with owners. Thus explained the exact area held by owners and Government tenants according to latest statistics is 47 per cent. and by tenants 53 per cent. of the total cultivated area. It is, however, to be remembered that many persons who are themselves proprietors also hold lands separately in

tenancy, and figured statements thus return tenants with relative exaggeration. The following statistics are the latest available on the subject :—

Details.			Number of holdings.	Area in acres.
Total cultivated area ...			9,340,510	27,231,427
Area cultivated by owners ...			3,499,129	12,896,948
Area cultivated by tenants free of rent or at nominal rent ...			463,974	308,509
Area cultivated by tenants paying rents	With right of occupancy.	Paying at revenue rates with or without málikána ...	717,379	1,553,929
		Paying other cash rents ...	125,153	318,675
		Paying in kind with or without an addition in cash ...	179,201	495,041
	Without right of occupancy.	Paying at revenue rates with or without málikána ...	450,576	849,446
		Paying other cash rents ...	948,418	2,734,340
		Paying in kind with or without an addition in cash ...	2,956,682	8,074,589
Total held by tenants paying rents ...			5,377,509	14,025,970

It will be observed from the above that of the area held by tenants paying rent 83 per cent. is held by tenants-at-will, 17 per cent. only being held by occupancy tenants.

System of Survey and Settlements.

Historical.

157. The history, principles and methods of survey and settlements in the Punjab are fully dealt with in the Punjab Settlement Manual,* of which a second edition has recently been published. The province was fortunate in the early days of British administration in being able to utilise the experience gained in the best methods of revenue administration in the then North-Western Provinces, from which source the early Settlement Officers of the Punjab were partly obtained. Cash settlements of the land revenue demand had been made in some of the districts of the Punjab during the pre-annexation regency of the British Resident, and on annexation similar summary settlements were introduced throughout. These temporary arrangements were replaced as soon as possible by regular settlements on the same system as obtained in the Delhi districts, which had been placed under regular settlement by the Government of the North-Western Provinces before their transfer to the Punjab ; a great deal of time and anxiety were expended in these early settlements over the determination of the various parties who had rights to the soil, and more particularly over the question of ownership. As a rule the cultivators were held to be the owners of the village lands, and were made responsible for the revenue : but in many cases, especially in the south and west of the province, intermediaries were found who were held to have superior claims to the proprietary right. A further difficulty, which was occasioned by the system adopted of making a settlement with each village community separately, was the determination of the village boundary. This involved the question of the waste. In the Eastern and Central Punjab where the village system was strong the limits within which the cattle of each community grazed was known. These were defined, and all unoccupied waste included within the boundary was treated as the common property of the owners. In Kángra the same policy was followed, and the waste became village property, except that the State's rights in certain valuable kinds of trees was reserved. In Kulu the waste has been retained as the property of the State. In the West Punjab the absence of a true village community involved the inclusion in one common boundary of the holdings of many heterogenous clans, and in the uplands of a large area of unoccupied waste. Even so the high unoccupied country in the western portions of the Bári, Rechna and Jech Doabs was retained by the State. In the Sind Sagar Doab the over-liberal admission of private rights in the vast unoccupied area of the Thal greatly reduces the

*By J. M. Douie, I.C.S., published at the *Civil and Military Gazette* Press, Lahore, Revised edition, 1909.

facilities for the development by the State of canal irrigation, by which alone any great extension of cultivation is possible.

Surveys.

158. The basis of a regular settlement is the preparation of a complete cadastral map and an accurate record of titles. The survey of estates is carried out by the village patwaris. The method now adopted in all plain tracts is that known as the square system of measurement. Before the plotting of the fields is commenced, the whole area of the estate is carefully marked out into squares of equal size, and the field map is filled in by plotting the distances of the corners of the fields from the sides and diagonals of these squares. It is found that the patwaris lay out the squares with great accuracy, and the resulting field map is correct enough for all the purposes of the revenue administration.

The units of length and area are not uniform throughout the province, but the 66-inch karm is the most frequent unit of length, being universal in the north and west of the province. With this unit the field map is plotted on a scale of 24 inches = 1 mile : the scales with the other units being approximately the same. The great convenience of this particular unit is that the area of the resultant kanál (which is the unit of area) is half a rood, and of the ghumáo (= 8 kanals) exactly one acre.

Killabandi.

159. Upon the construction of the Lower Chenab Canal and opening of the waste lands in the Rechna Doab to colonisation it became necessary to adopt a unit of grant and the patwari's survey square of 27·7 acres was selected: the vast area was demarcated into such squares and the irrigation arrangements provided a water-supply for each square capable of allotment. It was intended to allow the grantee to arrange his fields as he pleased within his grant, but a lucky chance led to the issue of orders that all squares should be divided into 25 sub-squares which thus contain an area of 8 kanals 18 marlas or one acre and 18 poles. The manifest advantages of this system led to its immediate acceptance, and the sub-squares were called killas and the system killabandi. Killabandi has been adopted in the Lower Jhelum Colony, and is being introduced on the canals of the Triple Project in Gujrát, Gujránwála and Montgomery districts, but in place of the survey square a rectangle of 25 acres has been adopted providing killas of one acre each, and thus avoiding the calculation of all rates in terms of killas as well as of acres. One of the advantages of killabandi lies in the simplicity of the mapping work required for the cadastral map which, to a large extent, then consists of straight lines drawn across the map: and in the consequent ease with which the map can be kept up-to-date. This is fully recognised not only by the record staff, but by the cultivators themselves, and led to the introduction of killabandi into proprietary areas irrigated by the Lower Chenab and Lower Jhelum Canals. Here killabandi involves a complete re-partition of the village area according to the share of each proprietor. This is simple enough in the large estates in the uplands with few owners and much waste land, but in the lower and more developed villages towards the rivers, entails a considerable amount of minute attention to detail. The advantages of the completed work are, however, so patent that the trouble of the re-arrangement has been cheerfully acquiesced in: and the system is being introduced into proprietary areas on the canals of the Triple Project. An experiment on the same lines on the Western Jumna Canal area in Karnál was not popular with the more conservative owners of the south of the province and has been abandoned.

Records.

160. The record of title is known as the "jamabandi" or register shewing the distribution of the revenue, a function which it still performs. Each field has a separate number given to it which is shewn on the field map: and each plot of land lying in one spot in the occupation of one person or of several persons holding jointly and held under one title is ordinarily measured as a single field. In the jamabandi the fields in each estate are grouped by proprietary holdings (kháta khewat), and within each proprietary holding by cultivation holdings (kháta khatauni). A revised edition of the jamabandi is prepared for each estate every fourth year.

Mutation and crop registers.

161. The most important subsidiary registers which are necessary to keep the jamabandi up to date are the mutation register, in which changes in proprietary ownership and hereditary tenants are shown, and the crop inspection register (khasra girdáwari), in which, besides the record of the crop grown

each harvest in each field, changes in cultivating possession are also indicated. When a Revenue Officer visits a village he attests the mutations recorded in the mutation register, passing an order that they are accepted or rejected; and only the changes sanctioned by the Revenue Officer in a formal mutation proceeding are incorporated in the revised jamabandi.

The crop inspection register follows the order of the field numbers, no attempt being made in it to group the fields belonging to one proprietor together. A crop inspection is made by the patwari for each harvest. The patwari notes against each field the crop grown, and any changes in the cultivating possession which have occurred. In this way accurate crop statistics for each harvest are obtained, and any changes which have occurred in rights or possession or field boundaries are brought to light.

Note-Books.

162. The records thus prepared, besides their value in the revision of the jamabandi, form the basis of the statistical note-books which are prepared for each village. These note-books are arranged so as to enable the patwari to keep a continuous record of the statistics relating to each village during the course of the settlement. The statements kept up are the following:—

(*i*) The yearly register of area, showing for each year the total cultivated and uncultivated area, the class of cultivation with reference to the means of irrigation and the number of wells in use.

(*ii*) The crop returns of each harvest, showing the matured area of crops of different kinds at each harvest.

(*iii*) The yearly revenue account.

(*iv*) The yearly total of areas transferred, classified according to the nature of the transfer.

(*v*) A quadrennial abstract of ownership, mortgages and revenue assignments.

(*vi*) A quadrennial abstract of cultivating occupancy.

(*vii*) The statement of prevailing rents.

(*viii*) Statistics regarding the number of agricultural stock and carts and ploughs.

Similar books are kept in the Tahsil and District Offices.

Accuracy of records.

163. The present system of "annual" record and preparation of statistics is associated with the name of Colonel Wace, to whose initiative the reforms introduced from 1885 onward are due. It was the previous policy to undertake a revision of the map and record only when each district came under revision of the assessment. One of the objects of the reforms in land record work then introduced was to entertain a village record agency capable of maintaining up to date the village field maps and record registers, and thereby to obviate the necessity for general revisions at settlement. That the records are maintained in a high state of efficiency is shown by the confidence placed in them by land-owners and by the decreasing resort to written deeds and the registration procedure, where a mutation will suffice. The effects of the reforms has in recent years been tested at the revision of the settlement of the districts which have been settled under the new system. It has not been found possible to do away with the special revision entirely, though a greatly simplified process can be employed and map correction substituted for complete remeasurement. The attention directed to the comparative failure of the 1887 reforms has led to the issue of fresh instructions recently, having for their object the greater accuracy of the annual record work, and in particular of the supplementary maps, required to record changes in field boundaries and numbers. Now that the office of Settlement Commissioner has been abolished, the Director of Land Records has been associated with the record and mapping work in settlements, and a want of continuity in control which formerly obtained has been avoided. The amalgamation on one cadre of settlement and district staffs of revenue subordinates is a further step calculated to assist to remove the distinction between ordinary and settlement record work.

Annual record work.

164. The amount of record work performed in the province may be gauged from the fact that on the average in each district between 27,000 and 28,000 mutations are attested in the year, the figures running up to over 80,000 in the case of Hoshiarpur district, which is under settlement. Unsatisfactory

partition work frequently necessitates special revision at settlement, not only from the fact that partitions effected from year to year are not infrequently inaccurately recorded, but also because partitions are postponed until settlement because they will be more accurately and more expeditiously carried out by the special staff. This defect, however, is being gradually removed by continual insistence on the proper performance of their duties in this respect by the revenue staff.

Settlements.

165. With the exception of a few estates of which the revenue has been redeemed by the proprietors under a policy long since abandoned, the village assessments are revised from time to time, the term of settlement being usually thirty years in the case of fully developed districts and twenty years where conditions are less advanced. Reassessment has, hitherto, as explained usually, been accompanied by a special revision of the records, though the processes are quite distinct; and a general revision could not until recently be undertaken without the sanction of the Government of India. The rule laying down the standard of assessment is as follows:—"The assessment of an estate will be fixed according to circumstances, but must not exceed half the value of the net assets," a phrase which is defined as meaning "the average surplus which the estate may yield after deduction of the expenses of cultivation, including profits of stock and wages of labour." When the rents are fair competition rents, 50 per cent. of the rental is considered to be the measure of the half assets share of rented land and the rates ascertained from these rents for all classes of soil are applied to the whole cultivation, whether by tenants or by the owners. The ascertainment of the rental is a comparatively easy matter with our present records where cash rents prevail, but considerable difficulty is encountered in converting produce rents into a cash rate. The area of each crop is of course known, but estimates have to be made of the outturns of each crop, the actual share received by the landlord and the prices obtained by him for his produce; all of which, owing to the uncertainty involved, are probably usually under-estimated. In practice, it is recognized that there are many reasons which may justify a Settlement Officer in assessing below the maximum standard, but he is required to state as accurately as possible what the half net assets are, and to give good reasons for any proposal to fix the Government demand much below that standard. No particular fraction of the *gross produce* is prescribed as the limit of the land revenue demand, the only limit being that just mentioned, *viz.*, half the value of the net assets. The actual assessment nowhere exceeds one-fifth of the gross produce. It is more often equal to one-seventh, one-eighth, or even a smaller fraction. There is a marked tendency in the recent assessment policy of the Punjab to assess irrigation from wells with greater leniency than before, in consideration of the expenditure of capital and labour in constructing and working the well, and very liberal rules are now in force postponing the full assessment on new wells for a term of years and remitting part of the demand when the well falls in. Whether for cash or produce rent areas the present practice is for the Settlement Officer to submit his assessment proposals in a report dealing usually with a tahsil, through the Commissioner to the Financial Commissioners who pass the necessary orders which, after they have been submitted to Government for confirmation, are communicated to the Settlement Officer for compliance.

Forms of assessment.

166. The usual form of demand is an assessment fixed for a term of years and realisable (subject to suspensions and remissions) in good and bad years alike, but systems of fluctuating assessments, under which the harvest demand is ascertained by the application of sanctioned rates to the harvest area, have long been a feature of Punjab land revenue administration. Much progress has been made in recent years in the simplification and improvement of the rules under which the assessments are carried out and, since the last revision of settlement in Multán, increasingly large areas are assessed in this way, especially in the west of the province. Within the last ten years the fixed Government demand has dropped from Rs. 222 lakhs to Rs. 214 lakhs, while the fluctuating demand has in the same period risen from Rs. 31 lakhs to Rs. 71 lakhs. On these figures the percentage of the total demand assessed on the fluctuating principle has more than doubled in ten years, and now amounts to one quarter of the whole. It has, however, to be remembered that it is extremely difficult, in present circumstances of development, to obtain an idea of the normal fluctuating demand, and again that, though the fluctuating demand is generally collected in full, much of the fixed demand is suspended and eventually remitted.

5.–CIVIL DIVISIONS OF BRITISH TERRITORY.

167. The present arrangement of the province for administrative purposes is as follows :— **Administrative divisions.**

Commissioners' divisions.	Executive districts.	Area in square miles.	Number of villages.	Population, 1911.	Tahsils.	Area in square miles.	Population, 1911.
DELHI ...	Hissar ...	5,213	1,007	804,889	Hissar ...	813	126,808
					Hánsi ...	803	167,963
					Bhiwáni ...	752	119,081
					Fatahabad ...	1,177	199,934
					Sirsa ...	1,640	191,103
	Rohtak ...	1,797	532	541,489	Rohtak ...	517	178,350
					Jhajjar ...	728	202,028
					Gohána ...	553	161,111
	Gurgaon ...	1,984	1,265	643,177	Gurgaon ...	411	112,312
					Fírozpur-Jhirka ...	314	114,598
					Núh	401	128,599
					Palwal ...	381	136,572
					Rewári ...	423	151,096
	Delhi ...	1,290	773	657,604	Delhi ...	428	367,957
					Sonepat ...	451	173,345
					Ballabgarh ...	381	116,302
	Karnál ...	3,153	1,445	799,787	Karnál ...	837	225,717
					Pánipat ...	460	171,375
					Kaithal ...	1,273	250,917
					Thánesar ...	557	151,778
	Ambála ...	1,851	1,797	689,970	Ambála ...	369	195,385
					Kharar ...	372	133,283
					Jagádhri ...	406	140,299
					Naráingarh ...	485	112,447
					Rúpar ...	290	108,556
	Simla ...	101	25	39,320	Kot Khai and Kotgarh.	52	10,843
					Simla and Bharauli	83	28,477
	Total Delhi division	15,389	6,844	4,176,236	...	15,257	4,176,236
JULLUNDAR ...	Kángra ...	9,978	718	770,386	Kángra ...	429	119,628
					Dehra ...	516	126,525
					Nurpur ...	526	100,041
					Hamírpur ...	602	166,701
					Kulu ...	1,343	124,803
					Pálampur ...	444	132,688
	Hoshiárpur ...	2,247	2,179	918,569	Hoshiárpur ...	508	241,033
					Dasúya ...	501	208,865
					Garhshankar ...	511	236,814
					Una ...	716	231,857
	Jullundar ...	1,431	1,314	801,920	Jullundar ...	392	278,101
					Nawáshahr ...	302	170,738
					Phillaur ...	293	163,248
					Nakodar ...	368	189,833
	Ludhiána ...	1,452	905	517,192	Ludhiána ...	683	258,367
					Jagráon ...	417	146,659
					Samrála ...	289	112,166
	Ferozepore ...	4,286	1,615	959,657	Ferozepore ...	493	170,003
					Zíra ...	495	155,695
					Moga ...	807	224,985
					Muktsar ...	934	180,046
					Fázilka ...	1,339	228,928
	Total Jullundar division.	19,394	6,731	3,967,724	...	12,908	3,967,724

Commissioners' divisions.	Executive districts.	Area in square miles.	Number of villages.	Population, 1911.	Tahsils.	Area in square miles.	Population, 1911.
LAHORE ...	Lahore ...	2,824	1,253	1,036,158	Lahore ...	730	465,878
					Chúnián ...	1,172	281,025
					Kasúr ...	813	289,255
	Amritsar ...	1,601	1,075	880,728	Amritsar ...	545	425,304
					Tarn Táran ...	597	271,970
					Ajnála ...	416	183,454
	Gurdáspur ...	1,889	2,365	836,771	Gurdáspur ...	496	224,515
					Batála ...	477	269,706
					Pathánkot ...	367	132,103
					Shakargarh ...	486	210,447
	Siálkot ...	1,991	2,524	979,553	Siálkot ...	433	283,489
					Pasrur ...	394	173,261
					Zafarwál ...	310	156,930
					Raya ...	486	194,275
					Daska ...	361	171,598
	Gujránwála ...	4,802	1,802	9234,19	Gujránwála ...	756	218,352
					Wazírabad ...	460	148,998
					Háfizabad ...	907	189,928
					Khángah Dográn	878	222,535
					Sharakpur ...	888	143,606
	Total Lahore division.	12,387	9,019	4,656,629	...	11,972	4,656,629
RAWALPINDI ...	Gujrát ...	2,357	1,508	784,011	Gujrát ...	569	304,778
					Khárián ...	646	265,268
					Phália ...	1,014	213,965
	Shahpur ...	4,791	1,068	648,989	Shahpur ...	609	142,225
					Khusháb ...	2,532	175,824
					Bhera ...	856	192,130
					Sargodha ...	807	138,810
	Jhelum ...	2,813	954	511,575	Jhelum ...	891	180,034
					Pind Dádan Khan	874	156,305
					Chakwál ...	999	175,236
	Ráwalpindi ...	2,010	1,293	547,827	Ráwalpindi ...	794	249,833
					Gujar Khan ...	569	148,575
					Murree ...	260	55,570
					Kahúta ...	452	92,849
	Attock ...	4,025	669	519,273	Attock ...	651	161,351
					Pindigheb ...	1,508	126,300
					Talagang ...	1,200	115,418
					Fatehjang ...	862	116,204
	Miánwáli ...	5,395	441	341,377	Miánwáli ...	1,548	138,380
					Bhakkar ...	3,142	135,127
					Isa Khel ...	678	67,870
	Total Ráwalpindi division.	21,391	5,933	3,353,052	...	21,461	3,353,052

Commissioners' divisions.	Executive districts.	Area in square miles.	Number of villages.	Population, 1911.	Tahsils.	Area in square miles.	Population, 1911.
Multán ...	Montgomery ...	4,649	1,385	535,299	Montgomery ...	1,402	93,798
					Gugera ...	780	97,770
					Dipálpur ...	996	197,310
					Pákpattan ...	1,330	146,421
	Lyallpur* ...	3,156	1,153	857,711	Lyallpur ...	1,247	398,244
					Samundri ...	984	264,556
					Toba Tek Singh ...	870	194,911
	Jhang* ...	3,363	986	515,526	Jhang ...	1,372	216,628
					Chiniot ...	1,016	183,966
					Shorkot ...	916	114,932
	Multán ...	6,107	1,446	814,871	Multán ...	953	262,937
					Shujabad ...	682	134,418
					Lodhrán ...	1,058	127,997
					Mailsi ...	1,657	122,906
					Kabírwála ...	1,605	166,613
	Muzaffargarh ...	6,052	937	569,461	Muzaffargarh ...	912	187,064
					Alípur ...	925	146,135
					Sannáwán ...	1,321	107,671
					Leiah ...	2,417	128,591
	Dera Ghá́zi Khan	5,325	794	499,860	Dera Ghá́zi Khan	1,456	181,908
					Sanghar ...	1,065	106,640
					Rájanpur ...	2,014	106,911
					Jámpur ...	895	104,401
	Total Multán division.	28,652	6,701	3,792,728	...	27,873	3,792,728
	Total British Punjab	97,213	35,228	19,946,369	...	89,471	19,946,369

The district areas are taken from the figures of the Survey Department; those for tahsils from the revenue records.

* The combined area of Lyallpur and Jhang only has been supplied by the Survey Department. The district details have been deduced from the revenue records.

Sub-divisions have been constituted at Sirsa (Hissar), Kaithal (Karnál), Rúpar (Ambála), Kulu (Kángra), Fázilka (Ferozepore), Kasúr (Lahore), Sharakpur (Gujránwála), Sargodha (Shahpur), Pind Dádan Khan (Jhelum), Pindígheb (Attock), Bhakkar (Miánwáli), Pákpattan (Montgomery), Leiah (Muzaffargarh) and Rájanpur (Dera Gházi Khan): and special officers are deputed for the charge of hill stations of Kasauli (Ambála), Dalhousie (Gurdáspur), and Murree (Ráwalpindi). Sub-tahsils in charge of Naib Tahsildars exist at Tohána and Dabwáli (Hissar), Gúlah (Karnál), Kálka (Ambála), Nathána and Abohar (Ferozepore), and Bhalwál (Shahpur).

Size of districts and tahsils.

168. From the statement given above it will be seen that the average district contains 3,352 square miles, 1,215 villages, and a population of 687,806 souls. For the average tahsil the figures are 860 square miles, 311 villages, and 176,516 souls. There are on the average almost exactly four tahsils in each district.

Civil and sessions divisions.

169. The fourteen civil and sessions divisions are arranged as follows:—

Division.	Districts.	Division.	Districts.
Hissar ...	Hissar. Rohtak.	Gujránwála ...	Gujránwála. Montgomery.
Delhi ...	Gurgaon. Delhi.	Siálkot ... Jhelum ...	Siálkot. Jhelum. Gujrát.
Ambála ...	Karnál. Ambála. Simla.	Ráwalpindi ... Attock ...	Ráwalpindi. Attock. Miánwáli.
Hoshiárpur ...	Hoshiárpur. Kángra (without Kulu).	Shahpur ...	Shahpur. Jhang. Lyallpur.
Jullundar ...	Jullundar.		
Ludhiána ...	Ludhiána.	Multán ...	Multán. Muzaffargarh. Dera Ghází Khan.
Ferozepore ...	Ferozepore.		
Lahore ...	Lahore.		
Amritsar ...	Amritsar. Gurdáspur.		

The sub-division of Kulu forms a separate civil division, the Deputy Commissioner of Kángra being the Divisional Judge. Sessions cases from the Kulu sub-division, however, are tried by the Sessions Judge of Hoshiárpur. Similarly the Chakwál tahsil of Jhelum is included in the civil division of Ráwalpindi, but in the sessions division of Jhelum.

6.—DETAILS OF THE LAST CENSUS—TRIBES AND LANGUAGE.

I.—TRIBES.

General.

Classification.

170. The distribution of the population of the province among the various tribes and castes recognised by the census is disturbed by two main causes. Apart from the Pathans and Baloches, whose identification does not present any serious difficulty, it is usual to give separate returns for a few only of the landowning tribes of the province. The rest are all classed either as Jat or Rajput tribes. The difficulty arises from the circumstance that many of these tribes are of very obscure origin and that particularly in the west the assignment of a particular Muhammadan tribe as Jat or Rajput depends to some extent on the idiosyncrasies of the individual enumerator guided by the principle, generally accepted in the west, that a higher social position is occupied by the Rajput than by the Jat tribe. The second disturbing factor is that the caste names are the names of occupational as well as of caste or tribal groups and that the transfer from one occupation to another may or may not be taken by the enumerator as altering the caste classification also.

Main tribes and castes.

171. The annexed table shows the numbers belonging to each caste or tribe which at the census of 1911 comprised 1 per cent. or more of the total population of the province.

Caste or tribe.	1901. Persons.	1901. *Per mille.*	1911. Persons.	1911. *Per mille.*
All castes	24,754,737	1,000	24,187,750	1,000
Jat	4,941,638	199·6	4,956,536	204·9
Rajput	1,854,500	71·9	1,635,432	67·6
Chamar	1,208,434	65·6	1,128,704	64·0
Mochi	414,996		419,378	
Chuhra	1,304,661	52·7	925,535	51·1
Musalli	...	...	309,568	
Brahman	1,122,642	45·4	1,017,743	42·1
Arain	1,006,784	40·7	977,601	40·4
Tarkhan	681,300	41·7	646,330	40·1
Lohar	351,458		323,477	
Jhinwar	459,776	31·2	359,864	29·6
Machhi	236,384		279,666	
Mallah	76,029		77,837	
Arora	652,624	26·3	674,083	27·9
Jullaha	656,887	26·5	635,044	26·3
Gujar	631,524	25·5	610,472	25·2
Kumhar	569,115	23·0	550,450	22·8
Baloch	467,843	18·9	532,499	22·0
Khatri	436,472	17·6	432,727	17·9
Teli	321,505	18·6	295,971	17·7
Penja and Kassab	139,305		132,849	
Awan	421,112	17·0	425,931	17·6
Bania	451,625	18·2	404,137	16·7
Kanet	389,857	15·7	403,815	16·7
Dhobi	147,253	15·3	156,046	14·6
Chhimba	151,517		129,338	
Lillari, Rangrez, Darzi	80,334		67,367	
Nai	376,238	15·2	350,456	14·5
Shekh	374,357	15·1	338,873	14·0
Pathan	263,897	10·7	292,417	12·1
Fakir	385,741	15·6	279,722	11·6
Sayad	238,227	9·6	247,388	10·2
Mirasi	247,701	10·0	227,394	9·4

Commentary on above.

172. The feature brought out by the above table, which accounts for over $\frac{4}{5}$ths of the whole population, is the retrogression, comparative as well as actual, in the tribes confined mainly to plague-stricken districts, of which the Brahmans and Banias are the most conspicuous example, and in the less exalted castes as for example the Chuhras and Chamars. This latter result may be due to the natural desire of members of those castes to pose as something higher, but plague has undoubtedly worked most havoc among the humbler folk of the Province. The sturdy Arora of the west and the Kanet of the hills are examples of increase unrestricted by plague mortality, and the variations among Jats and Rajputs are as much due to differences in classification of tribes, whose origin is uncertain, as to any real change in the comparative numbers.

The Tribes of the Punjab Proper.

Jats.

173. The Jats are in every respect the most important among the agricultural tribes of the Province: and in numbers alone comprise little short of 5,000,000 or one-fifth of the whole population. Under the general term are included the Ját of the south-eastern districts, the Jat of the Central Punjab and in the west the mass of the Muhammadan tribes which are below the Sayad, the Baloch and the priestly tribes and cannot substantiate a claim to Rajput descent. In the west indeed in common parlance the Jat is the husbandman much in the same way that the camelman is the Baloch. Here and elsewhere, as on the borders of Rajpútana, where the Jat comes in contact with the Rajput they have a somewhat inferior status, but in the central districts in which Sikhism is dominant they own no superior and are fully equal in social estimation to the Rajputs. Roughly speaking one-half of the Jats are Muhammadans, one-third Sikhs and one-sixth Hindus. In distribution they are ubiquitous, and are equally divided over the five divisions of the country, though they are less numerous in the Ráwalpindi division than elsewhere. Comparatively few Jats are found in the Himalayan tracts and in Attock district, but in Rohtak, Ludhiána, Muzaffargarh and Miánwáli they form more than one-third of the total population. In total numbers the Jats have been practically stationary since the previous census and now number 4,956,536, but the tribe as a whole has been a heavy sufferer from plague and an actual decrease has probably been concealed by difference in classification.

Rajputs.

174. Rajputs with a total population of over a million and a half like the Jats comprise many tribes of different religions, races and social systems. By religion they are now mostly Muhammadan, only about one-fourth being Hindus, while a very few are Sikhs. By race they include the ancient ruling tribes of the Jumna Valley, the Chauhan and Tunwar 'which gave Delhi its most famous Hindu dynasties': the Bhattis of the south and centre who have migrated from Bikáner and Jaisalmer into their present seats: the Syals of Jhang: and the Punwars of the south-west. In the northern or submontane districts the Rajputs also represent the old ruling tribes such as the Chibhs of Gujrát, the Janjuas of the Salt Range, and others, while in the Kángra district they preserve a very old type of Hindu aristocracy. Like the Jats the Rajputs are widely distributed over the province though there are few in Miánwáli, Muzaffargarh and Dera Gházi Khan. The greatest numbers are found in Ráwalpindi, Kángra and Jhang. The recent census shows a decline of 13 per cent. among the Rajput tribes, but the decrease is largely due to the separate classification of Ráthis, who were formerly returned as Rajputs. These Ráthis, 97,798 in number and by religion Hindus, are found exclusively in Kángra and Chamba where they stand between the Rajputs proper and the Ghiraths and Kanets who form the peasantry.

Gujars.

175. The Gujars are an important agricultural and pastoral tribe. They are most numerous in the eastern half of the Province and in the districts of the extreme north-west, especially in the district of Gujrat, to which they give their name. By origin they are, if language be a test, distinct from both the Rajputs and Jats, as their dialect is akin to the Mewári of Central India. In organization, however, they closely resemble the Jats, the tribes being equal in status *inter se*. Their absorption into Jat tribes may

account for the reduction in their present numbers which amounts to 3 per cent. in the decade: about one-fourth of the Gujars are Hindus and there are practically no Sikhs among them.

Lesser dominant Tribes.

176. There are other tribes which, like those already described, are, or have been, dominant in parts of the Punjab. In the Salt Range tract their tendency is to claim Arab or Mughal, and throughout the rest of the Punjab, Rajput descent, while in the western plains they are often classed as, and hardly to be distinguished from, Jats. They may be divided into three groups. In the Salt Range we have the Gakkhars of the northern cis-Indus portion of the tract, the Awans of the Range itself, and the Khattars who lie between them. In the western plains we find the Khokhars of Jhang and Shahpur, one of the most widely spread of the Punjab tribes, very generally recognized as Rajputs; the Kharrals and Káthias of the Ravi, the latter being possibly the lineal descendants of the Kathaei, who, in their stronghold of Sángla, so stoutly resisted the victorious army of Alexander; and the Daudpotras of Baháwalpur to which State they gave at once a founder and a dynasty. In the eastern plains the group is represented by the Dogars of the Upper Sutlej and Beas; the Rors of Thánesar, whose home is on the great battlefield of the Mahabharat; the Tagas of the Lower Jumna, possibly the descendants of the Scythian Takas; and the Meos and Khanzádahs of the Northern Aravalis, probably of aboriginal origin, and the latter standing with respect to the former in a relation similar to that existing between Rajputs and Jats. With the exception of the Rors who are wholly and the Tagas who are partly Hindus the above tribes are Muhammadans.

Minor agricultural and pastoral tribes.

177. Further tribes are found, important both in point of numbers and as including the most skilful husbandmen of the Province, which generally hold an inferior position among the agricultural community, and seldom, if ever, occupy the position of the dominant tribe in any considerable tract of country. First come the widely-distributed market-gardeners proper or growers of vegetables, represented by Mális in the Jumna zone, Sainis in the eastern submontane, Bághbáns or Maliárs in the Salt Range tract, and Arains almost throughout the cis-Indus Punjab. The last caste is the most numerous, and in the west they are little better than menials. The Arain of the Central Punjab, however, is recognised as one of the most skilful and industrious agriculturists of the Province. They were largely selected for the Chenab Colony, and Lyallpur now contains more Arains than any other district except Jullundur and Lahore. The Ghiraths are found in Kángra proper and the hills below it; while to the east the Kanets take their place. The Kambohs are probably allied to the Arains, and are found throughout the northern portion of the eastern plains, and in the middle valleys of the Sutlej and Jumna. The Mahtams of the central submontane and the whole valley of the Sutlej are probably of aboriginal stock, being in many parts still semi-nomad. The Ahirs are located in the south-eastern portion of the Delhi territory, where they once enjoyed considerable local importance. In the Punjab they have largely abandoned their hereditary occupation as herdsmen in favour of agriculture. The Gaddis of the Chamba Himalayas are a purely shepherd race and supposed to be of Khatri origin. Of the above tribes the Mális, Ghiraths, Kanets, Ahirs and Gaddis are Hindus, the Arains and Maliárs Muhammadans and the Mahtams Sikhs. The Sainis are both Hindus and Sikhs and Kambohs profess all three religions.

The Pathan and Baloch Tribes.

Baloches.

178. The Baloch element was not affected by the changes of 1901, the borders of the North-West Frontier Province having been devised to leave the Baloch tribes under the Punjab Government. The Baloches form the dominant race in Dera Gházi Khan district where they number 210,000 and Baloch tribes are found in considerable strength cis-Indus, in the Baháwalpur State and in the districts of Muzaffargarh, Multán, Jhang and elsewhere. Cis-Indus, however, the status of the Baloch is always far lower than it is in Dera Gházi

Khan, and in Karnál, to the east of the Province, the Baloches have sunk to a criminal tribe. The total number of Baloches is now 532,499, an increase of 14 per cent. since 1901, when an increase of 18 per cent. for the previous decade was recorded.

The Baloch tribal system only exists in full force in Dera Gházi Khan, in which district the chiefs or *tumandars* still exercise considerable authority, controlled on the one hand by custom and on the other by the British administration. Under this system the Baloch has preserved his national characteristics of hospitality, courage and fidelity to his word. He remains a keen horseman, though comparatively few enlist in our cavalry regiments, owing to their home-keeping tendencies and their inability to endure the continuous restraint of regimental discipline. As Muhammadans they are free from bigotry, and are but little under the influence of fanatical *mullahs* or priests, in this, as in many other respects, contrasting favourably with the Pathans. Murderous outrages under the influence of religious excitement are exceedingly rare among the Baloches.

The history of the Baloch tribes is still obscure. They advance a claim to Arab descent which may have some foundation in fact, but all that can be said with certainty is that 'about the middle of the 15th century the Baloches, who had some 500 years earlier occupied the western confines of the Lower Sulemans, moved northwards and eastwards into the Punjab along the mountains and the Indus Valley, expelling Pathans from the former, and subjugating the Jat inhabitants of the latter. In 1555 a large body accompanied Humayun in his victorious re-entry into India, and so obtained a footing in the Punjab proper.'

Pathans.

179. The only tracts in the Punjab in which the Pathans form the dominant agricultural tribes are the Chach country in the Attock tahsil of the district of that name and in the Mianwali district, especially that portion which lies trans-Indus and constitutes the Isa Khel tahsil. The Pathan tribal system however only subsists in any force west of the Indus, and to the east of it the Pathan is well nigh as tractable as the Baloch or the Rajput. Pathans are found in all the districts and major states of the Punjab and, where not actually temporary immigrants employed in horse-dealing, labour or trade, are or claim to be descendants of families that have reached their present abodes in the train of conquering invaders. Large numbers are found in the Delhi and Lahore districts, but in all these cases the Pathans are hardly to be distinguished in character or customs from the Muhammadan peasantry among whom they now dwell. Even so the Pathan element in the population does not amount to more than 1·2 per cent. of the whole and comprises all told no more than 292,417 souls, an increase of 4 per cent. on the figures of the previous census.

Priestly and Religious Castes.

Brahmans.

180. Brahmans are represented in every district of the Punjab, as Hindus are found throughout the Province. They are most numerous however in the Himalayan area and represent 14 per cent. of the population in Kángra. In the Delhi and Jullundur divisions generally they are widely represented, the proportion rising to 10 per cent. in Rohtak, but in all the western districts they are numerically weak. In total numbers they have fallen by 10 per cent. and now barely exceed one million, for plague has taken terrible toll among them. The Brahman in the Himalayas and in the east of the Province is often a landholder and in that capacity hardly exercises any spiritual or ceremonial functions, whereas in the west he is almost invariably a dependent of the Hindu trading castes.

The Brahmans are divided into two great territorial groups,—(*i*) the Gaur who are only found in any numbers east of a line drawn through Simla and Patiála, *i.e.*, in the basin of the Jumna, and (*ii*) the Sarsut, the Brahmans of the Punjab proper and *par excellence* of the Khatri and Arora castes.

The social status of the Brahman depends primarily on the status of the caste, or section of a caste, to which he ministers. Thus the Brahman of the Khatri ranks higher than the Brahman of the Arora, while the Chamarwa or Chamárs' Brahman stands entirely outside the pale of Brahmanism just as the Chamár is beyond the pale of Hinduism. But further the status of a Brahman depends on occupation, for those who receive inauspicious offerings, or are employed on occasions of death, form lower sub-castes, such as the Acháraj, the Sawni, the Vedpátr and the Dakaut. As a body the Brahmans appear to be retrogressing in wealth and influence, and, as they find a difficulty in living on the alms they receive as spiritual guides, are taking increasingly to secular pursuits.

Sayads and Kureshis.

181. Among the Muhammadans the Sayads and Kureshis occupy a position somewhat analogous to that of the Brahmans in the Hindu community and they also are largely landholders especially in the west. The Sayads and Kureshis comprise groups of very diverse origins. In the south-west and occasionally elsewhere are to be found families with well-founded claims to be descended from the tribe of the Prophet, but the claim to Sayad or Kureshi origin is very generally advanced by families which profess a saintly character or supernatural powers. The Sayads now number 247,388 souls and show an increase of 4 per cent. since the previous census. They are very widely distributed, but are actually strongest in the Rávalpindi division. Kureshis number 70,922 and have increased over 30 per cent. in the decade. These figures exclude such tribes as the Chishtis and Bodlas who claim Kureshi origin. Kureshis are confined exclusively to the Lahore, Ráwalpindi and Multán divisions, and as in the case of the Sayads are most numerous in Ráwalpindi division.

Religious orders.

182. There are further a number of religious orders, usually celibate in theory, but by no means rigorously so in practice. These orders thus tend to form *quasi* religious castes and it is impossible to draw any line between those who are members of an order and those who are members of the caste which bears the same name as the order. These orders were returned to the number of 280,000 all told (of whom 97,000 were females) as Fakirs by caste of whom the Muhammadan Madáris and Hindu Bairágis were the most numerous. In addition to these, Bairágis returned as such numbered 38,000 and Jogis over 54,000 souls. The difficulty in classification possibly accounts for the reduction from the figures of 385,000 Fakirs returned in 1901.

THE MERCANTILE CASTES.

Hindu castes.

183. The Hindu trading castes fall into three main groups,—(*i*) the Khatris, in the central and more especially the north-western districts of the Province, (*ii*) the Aroras, in the south-west, and (*iii*) the Banias of the south-east. Other but less important groups are the Bhátias, confined to the western districts, the Suds and Bhábras, found only in the sub-Himalayan districts, and the Pahári Mahájans and Bohras of the Himaláyan area.

The Khatris (432,000) stand highest in the social scale. They are a distinctively Punjab caste, and have a remarkably complex social system. Though they gave Sikhism its founder and most of its great religious leaders, they are mostly Hindus, only the sections to which the Sikh leaders belonged being, as a rule, Sikh by religion. The Aroras (674,000) claim a Khatri origin, but the point is a doubtful one, as in many respects their customs are different, though their social organization closely resembles or imitates that of the Khatris. The Banias of the Punjab are mainly of the Agarwal sub-caste, a few Sarálias and Oswals being found. Their organization is in marked contrast to that of the Khatris, and they form in reality a great occupational group divided into several sub-castes, based on sectarian differences, of which the Mahesri or Sivaites are in example. The Bhátias (23,000) are an immigrant caste of traders from Western Rájpútána, while the Bhábras (11,000) and Suds (20,000) are probably indigenous to the Punjab, the former being mainly Jains.

The Khatris, and indeed most of the trading castes, are not, however, exclusively traders, but are found in most of the learned professions and in Government service, and they also engage in banking and money-lending. Of the Hindu castes the most progressive appear to be the Agarwal Banias and the Aroras, the rigid social system of the Khatris apparently militating against their advance as a body.

Muhammadans.

184. The principal Muhammadan trading "castes" are the Khojas, Paráchas and Khakhas of the west, but other Muhammadan castes such as the Pathans, Shekhs and Kashmiris also engage in trade. The term Khoja of Persian origin is conferred upon converts of all classes though it is usually confined to Khatris, Aroras, Brahmans and Bhátias who have accepted Islam. Khakha is somewhat similarly used. The Arabic term Shekh, which does not in the Punjab denote a caste, is the title usually assumed by converts to Muhammadanism whose original Hindu caste was not very high. Shekhs have fallen off by 10 per cent. in the last decade, but including them the castes noticed above number some 406,000 souls.

Artizan and Menial Castes.

General.

185. The menial classes include the unclean castes, like the Chuhras, or sweepers who stand outside the pale of Hinduism and who can only rise in the social scale by abandoning their hereditary calling and becoming Muhammadan converts, modern Sikhism offering little opportunity to the lowest castes to rise in social position. There is, however, but little doubt that the definite abandonment of a lower for a higher occupation leads, sooner or later, to promotion in the scale of castes, even amongst the Hindus, and this fact renders it impossible to form any conclusions as to the relative progress of the various castes, for a decrease in the numbers of any given group may simply mean that many of its members have adopted a new pursuit or handicraft and been received into a higher caste. Conversely, it not infrequently occurs that fragments of the dominant castes are driven by circumstances to take to a trade or handicraft, and are gradually absorbed into its caste. This process must have been exceedingly common in former times when sudden political changes were frequent, and thus the modern lower occupational castes comprise many diverse elements, a fact which explains the extraordinary complexity of the social groups.

Artizan castes.

186. The highest of the artizan castes are the Tarkháns or carpenters and Lohárs or smiths, who are practically indistinguishable. The caste comprises skilled mechanics many of whom are rising under British rule to the status of a professsional class as trained engineers.

The Hindu Chamár, Sikh Ramdásia, and Muhammadan Mochi are the great leather-working castes: and the Julláha, often called Paoli in the west, is the weaver of the Punjab. It is, however, impossible entirely to separate these castes from the Chuhra, for south of the Sutlej the term Chuhra-Chamár is applied to the two castes collectively, the idea apparently being that working in leather defiles, so that the Chamár too is not within the pale of Hinduism. Impurity is, however, a question of degree, and the Chamárs have several sub-castes, of which one, the Bauna, consists of weavers. Similarly Mochi-Julláha is used of the leather-working and weaving castes collectively. The Chamárs and Mochis together form the most numerous of the artizan castes in the province and number over 1½ millions. The Kumhar or potter is not generally higher than the above in the social scale. He is most numerous where well-irrigation is most largely practised.

Menial castes.

187. Among the menials the Nai is an important functionary as he is a leech or surgeon as well as barber, while in the latter capacity he acts as an ambassador, or as a go-between on formal occasions. The numbers (350,000) testify to the usefulness of the Nai in the community. The Dhobi or washerman, the Darzi or tailor, the Chhimba or calico-printer, the Lillári or dyer in blue, and the Rangrez or dyer in red, constitute a group separated only by distinction of occupations, which are all combined by the Charhoa in the south-western districts. Similarly the Teli or oilman can hardly be separated from

the Penja or cotton-scutcher and Kassáb or butcher, all these occupations being commonly followed by the same person. Again the Hindu Jhinwar (or Dhinwar) the water-carrier is so called when he acts in that capacity. He is also known as a Mahra but as a bearer of burdens he is called a Kahár and if a cookshop keeper or grain parcher Bhatiára or Bharbhunja. If a Muhammadan the water-carrier is called Máchhi. In the Himalayas the organization is somewhat different. In the low hills the Barára and Batwál perform general menial service, the Meg weaves and works in leather, and the Dumna scavenges and works in grass; while in the higher hills the Koli, Dági and Chanál, as they are called almost indifferently, perform all menial offices.

Scavenger castes.

188. The Chuhras, called throughout the west of the Punjab Musallis or Kutánas when Muhammadans, are returned as of all religions. The Sikh Mazbi is by origin a Chuhra, who has, for some few generations at least, observed the ordinances of Sikhism, and abandoned the most degrading of the Chuhra's functions, so that he should be regarded as a degree above the scavenger castes. The Chuhra is an indispensable element in the village community of the eastern Punjab, but not so in the west, where the sweeper is often not to be found, and in consequence but few are returned in the districts on the Indus. In the Central Punjab this caste probably furnishes more agricultural labourers than sweepers, and they are very largely employed in this capacity on the Chenab Canal. Those who have taken permanently to working in leather or weaving have doubtless for the most part been returned as Chamárs or Julláhas. Chuhras and Musallis now number 1,235,000.

Miscellaneous Tribes.

Foreign races.

189. A few tribes such as the Mughals, Arabs and Turks still preserve names of a foreign origin. The Mughals number 98,000 souls and may be regarded as in the main descended from the Mughal armies which invaded India. They are somewhat widely distributed, but are most numerous in the Rawalpindi and Jhelum districts, which lie on the track followed by the Mughal armies.

Peddlers and carriers.

190. The Banjáras and Labánas are the travelling traders of the sub-montane tracts, the former being found in the east and the latter in the west, while there is a considerable colony of Labánas on the Lower Indus in Muzaffargarh. The two castes are probably the same people under different names.

Minor professional castes.

191. The Mirási is the family genealogist in Muhammadan tribes and also acts as a bard, a profession also followed by the Bháts and certain other minor castes. The Mirásis are numerous (227,394) and in the west at least occupy a low position in the social scale. The Bahrupias and Bhands are hereditary actors.

Vagrant criminal and gipsy castes.

192. The vagrant population includes large elements like the religious mendicants, which form no part of vagrant or gipsy tribes. Moreover, the latter are not always criminal, nor, on the other hand, are the criminal tribes always vagrant. Thus the vagrant tribes comprise the Ods, the Beldars and the Changars, all of whom are navvies and non-criminal. Other vagrants are the Báwarias on the middle Sutlej, the Aheris and Thoris of the eastern districts on the Rájpútána border, who are hunters, and the Jhabel, Kehal and Mor tribes of the lower Indus Valley, who are fishermen. These, with the exception of the Báwarias, may also be regarded as in the main non-criminal. Essentially criminal tribes are the Báwarias, the Harnis and the Sánsis of the centre and sub-montane districts, the Minas of Gurgaon, the Baloches and Tagus in Karnál, the Mahtams especially in Lahore, and the Pakhiwáras and Bháts in Siálkot, all of whom are under the operation of the Criminal Tribes Act. These tribes, though criminal, are however not always 'vagrant,' as many of them own land.

The gipsy tribes are the Nats, Bázigars, Pernas and Kanjars and in the hills the Hesis, all of them wandering minstrels, acrobats and prostitutes.

II.—LANGUAGE.

The languages of the people.

193. Dr. Grierson's classification in his Linguistic Survey of India has been followed in the census tabulation of languages. Every effort was made to secure scientifically accurate results, and the effect on the final figures of the agitation which arose over the return of persons speaking Urdu, Hindi and Punjabi, respectively, is believed to have been insignificant. The final figures are as follows:—

TOTAL POPULATION			24,187,750
TIBETO-CHINESE FAMILY.			
Tibeto-Burman sub-family.			
Tibeto-Hamalayan Branch		8	
Assam-Burmese Branch—			
Tibetan Group	10,737		
Pro-nominalised Himalayan Group ...	30,870		
		41,607	
			41,615
DRAVIDIAN FAMILY			459
INDO-EUROPEAN FAMILY.			
Aryan sub-family.			
Iranian Branch—			
Baluchi		70,675	
Pashto		67,174	
			137,849
Indian Branch—			
Non-Sanskritic sub-branch		7,216	
Sanskritic sub-branch ...			
Sanskrit Group		4	
North-West Group—			
Lahndi	4,253,566		
Sindhi	24,166		
		4,277,732	
Southern Group		815	
Eastern Group		2,222	
Western Group—			
Western Hindi ...	3,826,467		
Rajasthani	725,850		
Gujarati	1,964		
Punjabi	14,111,215		
Western Pahari ...	993,363		
		19,658,859	
Northern Group		10,092	
			23,956,940
UNSPECIFIED GIPSY LANGUAGES			12,136
VERNACULARS OF OTHER ASIATIC COUNTRIES			2,745
EUROPEAN LANGUAGES			36,006

In another classification the vernaculars of the province are spoken by 24,084,207 persons. Punjabi, the main language of the Punjab, is spoken by 583 *per mille*, Lahndi (or Western Punjabi) by 176, Western Hindi by 159, Western Pahari by 41, Rajasthani by 30, Baluchi and Pashto each by 3, Tibeto-Burman and European languages each by 2 and Sindhi by 1.

Comments on the foregoing table.

194. The Tibeto-Burman dialects are the speech of the north-eastern corner of the province, the chief instance being Kanauri, the language of Bashahr State.

Of the Iranian languages Baluchi shews an increase of 9 per cent. and Pashto of 27 per cent. over the figures of the last census. Baluchi is only spoken in Dera Gházi Khan (including the trans-frontier) and in Baháwalpur: Pashto in parts of Attock and Miánwáli. Compared with the increase in the Baloch and Pathan population respectively, Baluchi appears to be losing and Pashto to be gaining ground. The non-Sanskritic Indian language spoken in the province is Kashmiri spoken by immigrants chiefly in Ludhiána, Lahore and Amritsar.

Lahndi is the language of the north and west of the province, a line from Jhelum town to Pákpattan in Montgomery being roughly its eastern limit. The name, though appropriate, meaning the setting sun, is not in use locally. The language has numerous local designations indicating differ-

ences of dialect, the chief of which are Dheráwal, Baháwalpuri, Multáni, Hindki, Jatki, Pothwari, Thalochri, Jangli, Dhanni and Ghebi. Sindhi, a closely allied tongue, is spoken as a local dialect in the south-west corner of Baháwalpur. Mr. Grierson divides Lahndi into three groups—(1) the southern (standard dialect), (2) the north-east (Pothwari, &c.) and (3) the north-west (Dhanni, &c.); but the grouping is tentative, and no attempt to allocate dialects to groups has been made at this census. Of the languages of the important Western Group, Western Hindi includes Hindustani (1,553,301), Urdu (494,290) and other Hindi (1,778,876), and is the dialect of the Delhi Division and included States: Hindustani is the rural language in Delhi, Karnál and Ambála districts and other Hindi elsewhere, while Urdu is the polished language of the towns both in this part of the Province and generally. The distinctions, however, between these dialects are not clearly defined. Rajasthani, as the language of Rajputána, fringes the boundary of the Province from Baháwalpur to Gurgaon and includes the Bágri of Hissar, Ferozepore and Patiála and the Mewati of the Gurgaon Meos. Punjabi is the dialect of the Central Punjab plains and under present classification includes the Dogri of the Kángra Hills and the adjoining districts of Siálkot and Gurdáspur, though some authorities classify Dogri as Western Pahari. The plains language is differentiated as " Standard Punjabi." It is not easy to differentiate between some forms of Punjabi and of Lahndi. Western Pahari is spoken in the Simla Hills, in Chamba and parts of Kángra. Four groups are recognised by Dr. Grierson—the Simla group (405,008), Kulu group (122,970), Mandi group (237,377) and Chamba group (136,138), respectively, to which must be added the Murree Kahuta group (73,981), Gujari (16,526) and an additional 1,363 using dialects not allocated to any of these groups. Of the Indian language groups of little importance in the Punjab, the southern is represented by Marathi, the eastern by Bengali and the northern by Central Pahári (Garhwali) and Eastern Pahari (Naipali), the language of the Gurkhas.

The interesting Gipsy languages are mainly used for secret conversation. The chief patois returned in the census are Odki, Labanki and Bawaria spoken by the Ods, Labanas and Bawarias. There are many speculations as to the origin of these languages, but no theory as yet commands universal favour.

Some account of the dialects spoken by the tribe of hereditary criminals and the " argots " of the Báwarias, Sansis, Harnis, Baluchis and Bhats will be found in Mr. Vivian's " Handbook of the Criminal Tribes of the Punjab " published by the Punjab Government Press in 1912.

General.

195. Owing to alterations in classification and greater care in the preparation of the returns, any comparison of the language returns with those of previous enumerations is unsatisfactory. In general it may be said that Lahndi-speaking peoples have in the past frequently been returned as Punjabi speaking, and even now the Lahndi-speaking population is for the same reason probably underestimated. A decrease in the present return of Punjabi-speaking peoples and increase under Lahndi is thus explained. An actual decrease in population in the Punjabi and Western Hindi tracts has also led to a decrease under these languages. There is, or seems to be, no correlation between dialect and caste. Locality and status appear to be the chief factors influencing speech.

7. Changes in the Administration.

Personnel of the Administration.

196. The Hon'ble Mr. (now Sir) James McCrone Douie, C.S.I., First Financial Commissioner, officiated as Lieutenant-Governor from the 28th of April to 5th of August 1911, during the absence on leave of Sir Louis Dane.

Administrative changes.

197. The most important administrative event of the year was the announcement of the transfer of the seat of the Government of India from Calcutta to Delhi, the reasons for the transfer being set forth in the despatch of the Government of India, dated 25th August 1911, and the despatch of His Majesty's Secretary of State, dated 1st November 1911.

The tahsils of Dipálpur and Pákpattan, in the Montgomery district, were constituted, with effect from the 1st May 1911, into a Sub-division entitled the Pákpattan Sub-division, with head-quarters at Pákpattan.

Seventy-seven estates and rakhs of the Bhera tahsil of the Shahpur district were transferred to the Phália tahsil of the Gujrát district, with the double object of lightening the charge of the Deputy Commissioner of Shahpur, and of collecting together within the limits of the district of Gujrát all the areas to be irrigated by the new Upper Chenab Canal.

8. Relations with Tributary States and frontier affairs.

General.

Census.

198. A census was taken of the Native States on the night of March 10th 1911, concurrently with that taken in British India. The arrangements were under the Superintendent, Census Operations, Punjab, and the results are tabulated in the provincial report. For the States, as a whole, the population, which had grown 3·8 per cent. between 1891 and 1901, shewed a decline since 1901 of 4·8 per cent. The variations by individual States are given in subsequent paragraphs. Briefly speaking increases are shown in States which had suffered from famine migration in 1901 or have not been severely visited by plague since that date. Important decreases, as for instance in Nábha, Kapúrthala and Patiála, are largely due to plague. The only towns with population exceeding 10,000 are Patiála (46 974), which has shrunk considerably, Málerkotla (23,880), Narnau (Patiála, 21,350) Baháwalpur (18,414), Kapúrthala (16,367), Gobindgarh or Bhatinda, (Patiála, 15,037) Nábha (13,620), Phagwára (Kapúrthala, 11,779), Farídkot (11,673), Basi (Patiála, 11,125) and Kot Kapúra (10,644).

Imperial Service Troops.

199. Imperial Service Troops are maintained by eight States. The Patiála Contingent consists of a regiment of cavalry and two battalions of Infantry; Jind, Nábha, and Kapúrthala each maintain a battalion of Infantry, and Baháwalpur a Transport Corps, with a mounted escort of camelmen, while Farídkot, Málerkotla and Sirmúr furnish a company of Sappers apiece. No State in India, except Gwálior and Kashmír, furnishes a larger contingent than Patiála.

I.—Phulkian States and Bahawalpur.

Patiala.

Area 5,412 square miles; population (1911), 1,407,659; gross revenue, Rs. 82 lakhs; army and police, 5,297; Chief, Sir Bhupindra Singh, G.C.I.E., Sidhu Jat, aged 21; has no male heir; title, Maharaja; salute, 17 guns.

Nizamats.	*Area, square miles.**	*Population.*	*Tahsils.*
Ramgarh ...	1,835	425,324	Patiala, Bhawánigarh, Sunám, Narwána.
Pinjaur ...	825	183,314	Pinjaur, Rájpura, Banur, Ghanaur.
Amargarh ...	855	265,138	Amargarh, Fatehgarh, Sáhibgarh (Pail).
Anáhadgarh ...	1,836	379,971	Anáhadgarh, Bhikhi, Govindgarh.
Mohindargarh	576	153,912	Mohindargarh, Narnaul.

General.

200. The Maharaja went to England for the Coronation and was there from May to August. He was at Delhi for the Durbar, at which he received the G.C.I.E., and at Calcutta for Christmas. Their Excellencies the Viceroy and Lady Hardinge visited the State at the close of the year.

Administration.

201. There were no changes in the administration except that the Maharaja himself became Commander-in-Chief, on the retirement of Sardar Hira Singh, with Sardar Bakhshish Singh as Military Secretary. To help the Home Minister Lala Chiman Lal, Barrister-at-Law, was appointed Judicial Secretary. The Chief Minister, the Hon'ble Khan Zulfikar Ali Khan, received the C.S.I. at the Durbar.

* By Revenue Records.

Finance.

202. The expenditure of the year was slightly larger than the income, but this was due to several heavy items of expenditure, *viz.*, the contribution to the King Edward Memorial, the Maharaja's visits to England and Calcutta and the Coronation Durbar. The land revenue was collected in full without much difficulty and the Rajpura-Bhatinda Railway continued to pay the State well. The rate of interest on the capital expenditure amounted to 5½ per cent. Only one instalment of the Government loan to the State remains to be paid.

Agriculture.

203. The kharif on irrigated lands was fairly good, but the unirrigated crops largely failed. There was a scarcity of fodder in consequence and the condition of the cattle suffered. The later rains were good for the rabi and a large area was sown, but owing to the failure of rain in February the outturn on unirrigated land was disappointing. The irrigated area of the year is reported to be 50 per cent. more than in the previous year.

Settlement.

204. Orders have been passed as to the method of settlement of the hill forests and the settlement has been started.

Public health and census.

205. The public health has been fairly good; there was little malaria and less plague than usual. The census of 1911 shewed a decrease of population compared with that of 1901 of 189,033; about 12 per cent.

Departments.

206. The administration of the various departments was eminently satisfactory. In the Public Works Department the electric high tension scheme was completed and the city and civil station main roads at Patiála have been lighted by electricity.

BAHAWALPUR.

Area, 15,000 square miles; population (1911), 780,641; gross revenue, Rs. 35 lakhs; army and police, 1,897; Chief, Sadiq Muhammad Khan, Abbasi V, Daudpotra, aged 7; has no male heir; title, Nawab; salute, 17 guns.

Nizamats		*Area square miles.**	*Population.*	*Tahsils.*
Minchinabad	...	3,528	217,897	Minchinabad, Nahr Sadikiya, Khairpur.
Baháwalpur	...	7,079	305,186	Baháwalpur, Ahmadpur, Allahabad.
Khanpur	...	5,311	257,558	Khanpur, Naushahra, Ahmadpur Lamma.

General.

207. The Nawab visited Chail in the summer at the invitation of the Maharaja of Patiala: later in the year he attended the Durbar and spent a few days in Lahore. His Highness, who is only seven years old, was placed from December 1st in the charge of Major Mackenzie, I.M.S., who was appointed as his guardian and also as medical adviser of the State. With this exception there was no change in the Administration of the State by the Council, one member of which, Muhammad Abdul Rahman Khan, received the title of Khan Bahadur. His Excellency the Viceroy saw the Nawab in April at Dera Nawab and His Honour the Lieutenant-Governor visited the State in April and laid the foundation stone of the market at Chachran.

Finance.

208. In spite of several extraordinary items of expenditure the income of the State exceeded the expenditure of Rs. 30½ lakhs by Rs. 4½ lakhs. The Council by careful saving is accumulating a large balance with a view to paying the State share of the cost of the hoped for Beas-Sutlej Canal. The Khanpur-Chachran Railway is not paying so well as was expected and steps are being taken to remove the difficulties, including the construction of a market at Chachrán. The land revenue collections were fair, but over a lakh of rupees of arrears of revenue and takavi are still outstanding.

Agriculture.

209. The kharif was below average, but the rabi crop was a good one. Several of the inundation canals failed and caused considerable loss. On some of the canals the "abiana" system of cash payment for water has been introduced and it is proposed to abolish the "cher" system of forced labour altogether as unfair and unsatisfactory.

* By Revenue Records.

Settlement and Colonization.

210. The assessment of the Cholistan (desert) was completed and sanctioned in December 1911. The demand was raised from Rs. 57,000 to Rs. 97,000. The Sharkia Sadikia Canal has been completed and will irrigate a portion of the desert. It is proposed to sell a part of the area by auction and to colonize part. A colonization officer has been appointed and sent to Lyallpur to learn something of the work.

Public health and census.

211. The public health was on the whole good, but there was some mortality from small-pox. The population has increased in the last ten years by 59,764, or over 8 per cent.

Progress.

212. There are signs of progress in the State. The Council are striving hard to purify the administration and to increase efficiency. The Sadiq-Dane High School was formally opened by the Political Agent during this year.

JIND.

Area, 1,259 square miles; population (1,911), 271,728; gross revenue, Rs. 19 lakhs (including Rs. 3 lakhs extraordinary); army and police, 1,745; Chief Sir Ranbir Singh, K.C.S.I., Sidhu Jat, aged 33; has no male heir; title, Maharaja; salute, 11 guns. The State is divided into the tahsils of Sangrur, Jind and Dadri.

General.

213. The Maharaja was at Delhi for the Durbar where he received the hereditary title of Maharaja. There were no changes of importance in the administration. The Chief Minister, Sardar Bahadur Sardar Shamsher Singh, received the C.I.E. at the Durbar.

Finance.

214. The income and expenditure almost balanced at Rs. 19 lakhs. The income was unusually high owing to increased revenue from irrigation, but on the other hand there were unusual items of expenditure. A reserve of Rs. 14¾ lakhs is set a ide for the Jind-Panipat Railway, sanction to which is still awaited. The Ludhiána-Dhúri-Jákhal Railway paid the State some 7 per cent. on the capital expenditure. Practically the whole of the land revenue demand was collected.

Agriculture.

215. The kharif, except on irrigated land, was a failure, but owing to good rain in November a large rabi area was sown, which, however, gave a disappointing yield. The scarcity of fodder affected the condition of the cattle, and there was considerable mortality among live stock from foot and mouth disease. The irrigation from the Western Jumna and Sirhind Canals was largely in excess of the previous year's results. Co-operative credit societies continue to make headway.

Public health and census.

216. The public health was fairly good. The decrease in the population of the State in the last decade amounts to 3½ per cent.

NABHA.

Area, 928 square miles; population, (1911), 248,887; gross revenue, Rs. 17 lakhs; army and police, 1,485; Chief, Ripudaman Singh, Sidhu Jat, aged 29; has no male heir; title, Maharaja; salute 11 guns. The State is divided into the three nizamats of Amloh, Phul and Báwal.

General.

217. Maharaja Sir Hira Singh died on December 25th, 1911. He had visited Simla in the previous summer and exchanged visits with His Excellency the Viceroy and His Honour the Lieutenant-Governor. He was present at Delhi for the Durbar, and was granted the honour of visiting His Majesty the King Emperor, but was too ill to attend the Durbar itself. The Chief of the State was, however, honoured by the conferment of the hereditary title of Maharaja. At the time of his father's death, Tikka Ripudaman Singh was in France, but returned to his State in the middle of January.

Administration.

218. The present Maharaja has retained the three councillors who assisted his father in the administration of the State.

Finance.

219. The Durbar has a good deal of money invested in buildings at Simla and in banks and factories. Sanction has been asked for for a new railway from Jagraon in Ludhiána through Barnála to Hissar.

220. The rabi and irrigated kharif crops were average, but the cattle suffered from want of fodder. An Agricultural Department has been formed and placed in charge of a young man who was trained in England at the expense of the State. Agriculture.

221. The public health was on the whole good. The State however has decreased in population since 1901 by 16½ per cent. The execution of a scheme for relieving the water-logging of Nabha town has been suspended at the request of the present Maharaja as he has other ideas. Public health and census.

II.—States of the Jullundur Division.

KAPURTHALA.

Area, 630 square miles; population (1911), 268, 133; gross revenue, Rs. 14 lakhs*; army and police, 1,341; Chief, Sir Jagatjit Singh, Bahadur, G.C.S.I., Ahluwalia, aged 39; has a male heir; title, Maharaja; salute, 11 guns; tribute Rs. 1,31,000. The State is divided into the five tahsils of Kapúrthala, Dhilwan, Bholath, Phagwára and Sultánpur.

222. His Highness spent a portion of the summer at Mussoorie and a fortnight at Simla; at the Durbar the G.C.S.I. was conferred upon him and the hereditary title of Maharaja. General.

223. Mr. L. French, I.C.S., continued to serve the State as Chief Minister, his services being retained for a further period of three years. No important changes were made in the administration. Administration.

224. Plague prevailed in all the tahsils of the State, the epidemic being severest in the Kapúrthala tahsil. The deaths from plague recorded amount to 3,362. Cholera also visited the Phagwára tahsil. The census returns shew that the population of the State has declined by 14½ per cent. in the last ten years. Public health and census.

MANDI.

Area, 1,200 square miles; population (1911), 181,110; gross revenue, Rs. 5 lakhs; army and police, 691; the Gaddi vacant; tribute, Rs. one lakh. The State is divided into the four tahsils of Nagar-Mandi, Chacheot, Gopálpur and Harabagh.

225. Raja Bhawani Sen attended the Coronation Durbar and fell ill soon after his return. His condition became worse towards the end of January and he died on February 9th, 1912. The loss to the State by his untimely death is severe. His Highness died without issue, and Mr. Gordon Walker, I.C.S., the Settlement Officer, was put in charge of the State pending the selection of a successor. General.

226. The income and expenditure balanced at some Rs. 5,19,000. Rs. 77,246 were received by the State from the sale of salt, the mines being worked by a contractor. Finance.

227. A revenue settlement of the State is in progress. Mr. Garbett, I.C.S., the Settlement Officer, was obliged to proceed on sick leave in October 1911, and was succeeded by Mr. Gordon Walker. Settlement.

228. The crops were good and the health of the people satisfactory. Since the previous census the population has increased by 4 per cent. Public health and census.

SUKET.

Area, 420 square miles; population (1911), 54,928; gross revenue, Rs. 2 lakhs; army and police, 101; Chief, Bhim Sen, Rajput; aged 27; has no male heir; title, Raja; salute, 11 guns; tribute, Rs. 11,000.

229. The Raja continues to take a personal interest in the affairs of the State, but the financial condition requires careful attention. Public works on a considerable scale have been undertaken at the capital. The general health of the people was good. The population has remained stationary during the decade. General.

*Exclusive of some Rs. 13 lakhs derived by the Maharaja from his Oudh estates.

MALER KOTLA.

Area, 167 square miles; population (1911), 71,144; gross revenue, Rs. 9 lakhs; arm and police, 587; Chief, Ahmad Ali Khan, Bahadur, Pathan, aged 31; has a male heir; title, Nawab salute, 11 guns.

General.

230. His Highness was present at the Coronation Durbar.

Finances.

231. The total income of the State was Rs. 8,96,154 and the expendi ture Rs. 6,92,968, but the financial condition is notoriously unsatisfactory and the pay of establishment believed to be heavily in arrears.

Settlement.

232. A revenue settlement is in progress, the Settlement Officer bein Chaudhri Muhammad Din, Extra Assistant Commissioner, whose services hav been lent by the British Government to the Durbar.

Public health and census.

233. Plague occasioned 563 deaths, but the health of the people w otherwise good. The population has, however, declined by 8 per cent. sin the last census.

FARIDKOT.

Area, 642 square miles; population, 130,295; gross revenue, Rs. 11½ lakhs; army a police, 763; Chief, Brij Indar Singh, Barar Jat, aged 15½; has no male heir; title, Ra salute, 11 guns. The State is divided into the two tahsils of Faridkot and Kot Kapúra.

Administration.

234. The young Raja is at the Aitchison Chiefs' College, where h progress has been good. The Council of Regency continued to adminis the State satisfactorily. The success of the Council is in large measu due to the energy and enterprise of Sardar Dyal Singh, Mán, the Pre dent.

Finance.

235. The expenditure of the year was high, Rs. 8,71,000, owing expenses incurred on the Durbar, but fell short of income by nearly Rs. lakhs. The revenue settlement of the State was completed during the year.

Public health and census.

236. The health of the people was good though plague was prevale The population has increased by over 4 per cent. in the last decade.

III.—States of the Delhi Division.

SIRMUR (NAHAN).

Area, 1,198 square miles; population, 138,520; gross revenue, Rs. 6 lakhs; army police, 628; Chief, Amar Prakash, Rajput, aged 23; has no male heir; title, Raja; salute, guns. The State is divided into the four tahsils of Náhan, Pachhad, Ranika and Paonga.

Administration.

237. His Highness the Raja Surindar Bikram Prakash, K.C.S.I., died Mussoorie on July 4th, 1911, after a short illness. Tikka Amar Singh w installed as Chief of the State under the title of Raja Amar Parkash October 26th, 1911, by His Honour the Lieutenant-Governor. The privilege passing sentences of death on his subjects without confirmation, which w specially granted to the deceased Chief in 1906, was not continued and su sentences will be subject to confirmation by the Commissioner of Delhi.

Public Works.

238. Náhan town is being provided with water works and the services an Executive Engineer have been lent to the State by the Punjab Governme for inspection of the works.

Census.

239. Since 1901 the population of the State has risen by 2 per cent.

Minor States.

State.	Area in square miles.	Population.	Gross revenue.	Chief.	Race.	Age.	Whether male heir or not.	Army and police.
			Rs.					
Kalsia ...	168	55,915	2,21,000	Ravi Sher Singh ...	Sandhu Jat	9½	No.	196
Pataudi ...	53	15,943	1,11,000	Muhammad Muzaffar Ali Khan.	Afghan ...	52	Yes.	64
Loháru ...	222	18,559	81,500	Amir-ud-din Ahmad Khan, K.C.I.E.	Mughal ...	52	Do.	60
Dujána ...	100	25,485	77,000	Muhammad Khurshed Ali Khan.	Pathan ...	29	Do.	146

The Nawab of Loháru has a personal salute of 9 guns. The Nawab of Dujána is under obligation to provide 50 horsemen on requirement.

240. *Kalsia.*—It is proposed to send the Sardar to the Aitchison College in October 1912. Kalsia.

Pataudi.—Powers were restored to the Nawab under certain restrictions in May 1911. The Manager was dispensed with, but a retired Tahsildar, Mirza Muhammad Hussain Khan, was appointed adviser. The Nawabzada was given 1st class powers, Civil, Criminal and Revenue, at the same time and seems to be doing well. Pataudi.

Dujana.—Differences have arisen between the Nawab and his sister and younger brother, but a reconciliation is in prospect. Dujana.

241. At the census Loháru returned an increase of 22 per cent. and Dujána of 5·4 per cent. Decreases of 10·9 and 16·8 were returned by Pataudi and Kalsia. The variations depend on whether the State has suffered or no from plague. Even now the population of Loháru is no more than 84 to the square mile. Census.

IV.—State of the Lahore Division.

Chamba.

Area, 3,216 square miles; population, 135,989; gross revenue, Rs. 4 lakhs; army and police, 419; Chief, Sir Bhure Singh, K.C.S.I.; aged 43; Rajput; has a male heir; title, Raja; salute, 11 guns; tribute, Rs. 3,800. The state is divided into the five Wazarats of Brahmaur, Chamba, Bhattiyat, Chaurah and Pangi.

242. The Raja attended the Coronation Durbar at Delhi. His eldest son Tikka Ram Singh was married on January 20th, 1911. Mian Nihal Singh, His Highness' nephew, was accepted by the Punjab Government as a probationary Extra Assistant Commissioner and went for training to the Kángra settlement. General.

243. Captain Gillespie, R. E., Chief Engineer of the State, who was in charge of the Hydro-Electric Scheme, proceeded on leave in August and will not return to the State. Mr. Trevor, Forest Officer in Chamba, who has been attached to the State for some years, was succeeded by Mr. R. McIntosh. Public Works and Forests.

244. The Chalama spur, 68½ acres of land near Bakloh, was acquired by the British Government from the State on February 16th, 1912, to provide further accommodation for the Gurkha troops. The annual tribute paid by the Raja will be reduced by Rs. 740 in consideration of this acquisition. Territorial change.

245. The population of this State has risen by over 6 per cent. since last census. Census.

V.—The Simla Hill States.

The chief particulars of the Simla Hill States are given in the following table :—

No.	State.	Area in square miles including feudatories.	Population in 1911.	Revenue.	Tribute.	Name of Chief.	Race.	Age.	Title.	Whether male heir or not.	Military forces and police.
				Rs.	Rs.						
1	Bashahr	3,881	93,203	95,000	3,945	Shamsher Singh	Rajput ...	74	Raja ...	No	13
2	Biláspur	448	93,107	1,90,000	8,000	Bijai Chand, C.S.I.	Do. ...	39	Raja ...	No	198
3	Keonthal	359	46,224	1,00,000	...	Bijai Sen	Do. ...	35	Raja ...	Yes	36
4	Jubbal	320	24,620	1,50,000	2,520	Bhagat Chand	Do. ...	23	Rana ...	No	19
5	Nalagarh	256	49,230	1,30,000	5,000	Jogindar Singh	Do. ...	42	Raja ...	No	88
6	Bághal	124	26,008	70,000	3,600	Bikram Singh	Do. ...	19	Raja ...	Yes	25
7	Bhajji	96	14,972	25,000	1,440	Durga Singh	Do. ...	69	Rana ...	Yes	32
8	Kumhársain	90	12,219	24,000	2,000	Hira Singh	Do. ...	70	Rana ...	Yes	7
9	Kunhiár	80	2,208	5,000	180	Hardeo Singh	Do. ...	14	Thakur ...	No	9
10	Taroch	67	4,493	59,000	288	Surat Singh	Do. ...	25	Thakur ...	Yes	...
11	Balsan	51	6,225	15,000	1,080	Bir Singh	Do. ...	48	Rana ...	No	...
12	Mailog	43	8,663	20,000	1,440	Durga Chand	Do. ...	14	Thakur ...	No	16
13	Baghát	36	8,797	40,000	Over 132	Durga Singh	Do. ...	10	Rana ...	No	43
14	Dhami	26	4,484	10,000	720	Hira Singh	Do. ...	35	Rana ...	Yes	25
15	Kuthár	20	4,016	16,000	1,000	Jagjit Singh	Do. ...	25	Rana ...	Yes	8
16	Sángri	16	3,022	2,000	...	Hira Singh	Do. ...	61	Rai ...	Yes	...
17	Mangal	12	1,267	900	72	Tilok Singh	Do. ...	61	Rana ...	Yes	...
18	Dárkuti	8	521	1,500	...	Ram Saran Singh	Do. ...	59	Rana ...	Yes	...
19	Bija	4	1,064	6,000	124	Puran Chand	Do. ...	16	Thakur ...	No	8

Three of the above States have feudatories themselves, the chief particulars of which are as follows; the figures for population and area are included in the previous statement :—

No.	State.	No.	Feudatory.	Area.	Population in 1911.	Revenue.	Name of Chief.	Race.	Age.	Whether male, heir or not.	Military force including police.
						Rs.					
1	Bashahr ...	1	Kaneti ...	100	2,854	4,000	Amog Chand ...		21	...	...
		2	Delath ...	43	1,393	550	Narindar Singh.		62	Yes	...
2	Keonthal ...	1	Koti ...	50	8,265	25,000	Raghbir Chand		52	Yes	56
		2	Theog ...	144	6,345	5,000	Padam Chand ...		26	Yes	8
		3	Madhan ...	9	3,901	2,000	Randhir Singh...	Rajput.	25	No	6
		4	Ghund ...	28	1,887	2,000	Ranjit Singh ...		29	No	...
		5	Ratesh ...	12	472	625	Hira Singh ...		44	Yes	...
3	Jubbal ...	1	Rawin ...	7	749	3,000	Kidar Singh ...		35	Yes	...
		2	Dhadi ...	25	244	1,400	Dharm Singh ...		24	Yes	...

The Raja of Biláspur has a salute of 11 guns.

346. The following occurrences in 1911-12 are noted :— Chief incidents.

Bashahr.—Mr. Emerson, I.C.S., was appointed Manager of the State; Rai Sahib Mangat Ram remaining on as Assistant Manager. The administration is proceeding smoothly and there are no traces of the late disaffection.

Bilâspur.—Raja Bijai Chand was invested with the title of C.S.I. at the Durbar.

Jubbal.—The Rana was invited to the Durbar. Mian Sher Singh has been retained as Wazir for three more years.

Nalagarh.—On the death of Raja Isari Singh his brother Kanwar Jogindar Singh succeeded to the Gaddi. A Council of three, presided over by Diwan Indar Singh, which is to be retained for three years, conducts the administration.

Kunihár.—Mian Jog Raj was appointed Manager on the death of Pandit Lakshmi Dhar.

Baghát.—Rana Dalip Singh, C.I.E., attended the Durbar and died shortly after his return. His son Durga Singh has been recognised as his successor, but during the new Chief's minority Kunwar Amar Singh, his uncle, will carry on the administration.

Kaneti.—Tikka Amog Chand was invested with full powers.

Madhan.—The settlement was concluded.

247 Collectively the population of the Hill States has increased since the last census; the increase being as much as 12½ per cent. in Bhajji and 10 per cent. in Bashahr. The only important exceptions are Nálagarh, Baghát, Mailog and Balsán. Census.

Frontier Affairs.

248. The peace of the border remained undisturbed during the year. The tribes suffered from scarcity, and taccavi loans amounting to Rs. 34,000 were advanced to them through their Chiefs. The conduct of the Tumans was good and their management by the Tumandars generally satisfactory. The Jirga system continued to work well. There was a rise in the number of criminal cases reported as compared with the two preceding years, but the number was not in excess of that reported in 1908-09 except in respect of minor cases in which there is an increasing tendency to take legal proceedings. General.

9. Condition of the people.

249. During the year, although conditions approaching famine were not experienced, the unfavourable nature of the monsoon rainfall gave cause for anxiety, especially in the insecure tracts in the south-east of the province. Owing to the general extension of canal irrigation and railway facilities and to the constant excess of the demand for labour over the supply there is at present little fear that human beings need suffer for want of food. Happily the winter harvest was excellent, no less on unirrigated than on irrigated land. The unaccustomed ease with which labour was obtained for the great works on the canals of the Triple Project, however, showed that local conditions were unfavourable in many parts of the province. The fodder famine, which results from a failure of the monsoon harvest, is the most serious difficulty which the administration has to face on these occasions and the past year was no exception to the rule. Apart from the weakening of the recuperative power of the agriculturist which follows from the loss of his cattle, the importance of a fodder famine in the Punjab is that it is most severe in those breeding grounds upon which the province now largely depends for the supply of its agricultural cattle. The provision of free canal water to village tanks and the reduction of freight charges on consignments of fodder to distressed areas do much to minimise the effects of the failure of the rains, and the loss of cattle during the past year was probably small. The continued freedom of the province from malaria and consequent improvement in the general health and stamina of the people have resulted in a further increase in the birth-rate, and at present at any rate the productivity of the present population of the province is high. The reduction in the mortality from plague has arrested the decline in population which the census figures show to have taken place in the last decade and, if the theory that the rats themselves are now becoming naturally inoculated is in accordance with facts, the province has less to fear in the future from this terrible scourge. Prices remain at a high level and show little sign of weakening. To those whose incomes are fixed high prices are anything but a blessing, but they form a small, though important and audible class. All who have had anything to sell, whether it be only the labour of their hands, have shared to the full in the general rise in prices and in particular the labourer, both rural and urban, under the operation of the laws of supply and demand, is freeing himself from the shackles of a customary wage and participating in the increased material wealth of the province. The rise in wages is probably permanent and it is doubtful whether the scale adopted for famine relief works will not now have to be altered in view of the changed conditions.

CHAPTER II.

ADMINISTRATION OF THE LAND

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Realization of the revenue.— } Report on the Land Revenue Administration of the Punjab for the agricultural year 1st October 1910 to 30th September 1911.
Revenue Surveys and Settlements.— }

Professional Surveys.—General Report on the Operations of the Survey of India for the year ending 30th September 1911.

Land Records.—Report on the Operations of the Department of Land Records, Punjab, for the year ending 30th September 1911.

Waste Lands and Government Estates.—
1. Annual Report for the Chenab, Jhelum and Chuniân Colonies for the year ending 30th September 1911.
2. Land Revenue Report, *as above.*

Wards' Estates.—Report on the Administration of Estates under the Court of Wards in the Punjab for the year ending 30th September 1911.

Revenue and rent-paying classes.—Land Revenue Report, *as above.*

PUBLICATION OF THE GOVERNMENT OF INDIA.

Agricultural statistics of India, Volume I—

Area Totals—Table 1 H.	Varieties of Tenure—Table 6 I.
Classification of Area—Table 2 H.	Transfers of Land—Table 7 G.
Incidence of Land Revenue—Table 5-F.	Changes in Boundaries—Table 14.

10.—Realization of the revenue.

FIXED LAND REVENUE.

Demand and collections.

250. The fixed land revenue roll of the province stands at Rs. 2,13,26,353, which is an increase of Rs. 4,59,360 on the figures of the previous year. Re-assessments in Karnál, Delhi, Hissar and Gurdáspur account for increases aggregating $5\frac{1}{2}$ lakhs, while the introduction of fluctuating asses ments in the Bhera-Chenab circle of Shahpur and diluvion cause reductions of over a lakh. The other additions and deductions are normal. Of the current demand 99·3 per cent. was recovered. The outstanding balance of the current demand is Rs. 1,53,703, of which Rs. 50,681 are under suspension, Rs. 1,516 undetermined, and Rs. 8,172 recoverable arrears not under suspension. The irrecoverable balance is Rs. 93,334 on account of lands where diluvion has occurred, wells have fallen out of use, or fluctuating assessments have been introduced.

Land revenue temporarily off the fixed land revenue roll amounted to Rs. 90,000, from which the item of Rs. 50,000 due to new assessments in Hissar has to be deducted, leaving the account at the normal figure of Rs. 40,000.

The balance at the close of last year was Rs. 17,42,464, of which Rs. 8,70,908 were classed as recoverable and Rs. 8,71,556 as undetermined or irrecoverable. Of these sums in the year under report, Rs. 8,52,108 have been struck off and Rs. 4,72,157 have been recovered. Rupees 4,25,727 remain as balance. The difference in the totals of Rs. 7,528 is due to a mistake. The year 1911-12 thus starts with balances of years previous to 1910-11 of Rs. 4,25,727 and balances of the year 1910-11 of Rs. 1,53,703. The balance is only a little in excess of 2 per cent. of the revenue roll for the year 1910-11, and would have been smaller still had the outturn of the rabi crop of 1911 been at all up to expectation. Of the total Rs. 3,76,968 are under suspension including a sum of Rs. 1,12,152 which has been under suspension for more than three years. The largest items are in the Delhi, Gurgaon and Rohtak districts.

River action.

251. Alluvion and diluvion occurred in 22 districts, resulting in a net decrease of Rs. 23,026 in the fixed land revenue roll. The loss due to Chos and minor streams is a little more than one-seventh of the whole sum involved, the remainder being due to the action of the great rivers. Gurgaon is the only

district which reports a gain; the largest loss is reported in Gurdáspur owing to the action of the Beas and Ravi. But the statistics do not show the total gain and loss of revenue due to alluvion and diluvion, because in the districts in the west of the province where changes are greatest they are dealt with by means of systems of fluctuating assessments

Fluctuating Land Revenue.

Demand and collections.

252. The total demand for permanent fluctuating land revenue is Rs. 71 lakhs, or 17 lakhs better than last year. In the land revenue on canal-irrigated land assessed by the Deputy Commissioner there is a decrease of $1\frac{1}{2}$ lakhs, chiefly due to a bad season in Multán, but in the case of land revenue and malikana assessed by the Irrigation Department there has been an increase of 1 lakh in Gujránwála, $14\frac{1}{2}$ lakhs in Lyallpur, and $2\frac{1}{2}$ lakhs in Jhang. This is due to the new assessments in the Chenab colony introduced in rabi 1911. Less than Rs. 10,000 remained uncollected.

Supervision of demands.

253. It is important under a system of fluctuating demand to see that the demand sanctioned at settlement is actually being obtained, and, to make this possible, at the close of each rabi harvest the Financial Commissioner receives a statement from districts under fluctuating assessments showing the demand of the past year and the average of the demand yearly since settlement as compared with the demand anticipated by the Settlement Officer. The submission of the statement has only been recently prescribed, and it is too early to give a general review of the working of fluctuating assessments on the imperfect returns of two years only; but the Financial Commissioner hopes to be in a position to give the results of his examination of the general working of fluctuating assessments in next year's report.

Other demands classed as Land Revenue.

Demand and collections.

254. The demand on account of other items classified as land revenue amounted to Rs. 24,83,969, of which Rs. 24,45,702 were collected. Rupees 14 lakhs odd were realised from the sale of Government estates in the Chenab Colony and also in Muzaffargarh and Delhi; Rs. $1\frac{1}{2}$ lakhs from nazrana, Rs. $3\frac{1}{4}$ lakhs from the sale of sites in the town of Tandliánwála in Lyallpur district; Rs. 1 lakh from assignees as their contribution towards the cost of settlement, and Rs. 50,000 from single harvest leases.

Miscellaneous.

Processes for the collection of land revenue.

255. Coercive processes for the collection of land revenue issued against lambardars in 4,683 cases, representing an increase of 846 cases on last year, but of these processes 2,481 were only "writs." Coercive processes against others, including 7,197 writs, issued in 9,589 cases or 352 more than last year. From the lambardars concerned 97 per cent. of the demand was recovered and from the others 90 per cent. Stringent methods to secure payment from lambardars were necessitated in Ferozepore, Gujránwála, Muzaffargarh and Dera Gházi Khan, while the lambardars appear to have most required assistance from the Act in the districts of Rohtak, Amritsar and Gurdáspur. The processes issued were mainly served by the agency of the tahsil establishment, special extra establishment being employed in 17 districts only. Receipts from process fees amounted to Rs. 18,485, - a large increase, due to the scale of fees having recently been raised.

Payment of revenue through the Post Office.

256. In Karnál nearly Rs. $2\frac{1}{2}$ lakhs of Government demands were remitted to the treasury by money order, and over a lakh of rupees was remitted in each case in the districts of Gurgaon, Jhang and Gujránwála. Fourteen districts used this method extensively, while in twelve other districts there was a limited resort to this manner of remitting money to meet Government demands The total sums of land revenue, malikana, occupier's rate and cesses sent by money order amounted to 14 lakhs of rupees. The expenses connected with the custody and remittance of treasure from rural post offices are already a serious item.

The system of remittance by currency notes is to be continued experimentally till May 1912 in the Khangah Dográn tahsil of Gujránwála, where Rs. 59,120 were remitted by this method during the present year.

11.—Professional Surveys.

257. No. 2 party surveyed an area of 1,026 square miles in the Salt Range at the request of the Punjab Government on the 2-inch scale, and a further area of 4,971 square miles on the 1-inch scale in the Attock, Jhelum, Shahpur, Gujránwála, Gujrát and Siálkot districts, and in Jammu. These surveys include a forest area of 219 square miles, including reserved and unclassified forests and rakhs. Work carried out.

No. 3 party carried out a 2-inch revision survey for 65 square miles comprising the city of Delhi and its environs, and a special guide map of this area has been drawn out on that scale. The party also surveyed parts of the Delhi and Gurgáon districts on the 1-inch scale.

No. 9 party surveyed an area of 5,687 square miles, including 326 square miles of forest, on the 1-inch scale in the Jhang, Miánwáli, Shahpur, Lyallpur, Gujránwála, Lahore and Montgomery districts. In this party considerable use was made of the patwaris' maps which were pantographed down and the reductions transferred to the plane table sections. Twenty-one 1-inch standard sheets relating to the Punjab were issued.

258. The Punjab riverain detachment continued the work of traversing and laying down base lines for the future demarcation and survey of riverain boundaries and for the general co-ordination of the cadastral surveys of the riverain estates. Traversing was carried out for cadastral surveys on the Sutlej, Beas, Jhelum and Chenab and for riverain boundaries on the Jumna and Indus. Settlement mapping sheets were completed for 259 villages showing the village boundaries, and 21 four-inch sheets were traced and supplied to the Settlement Officers of Gujránwála, Ferozepore and Hoshiárpur. Work was also started in February on the Lower Bari Doab 25-acre rectangular survey, closed in June and restarted in September with an increased staff. In all 4,164 rectangles were broken. The operations will extend over an area of some 2,500 square miles, which will eventually be commanded by the Lower Bari Doab Canal. The staff employed on this work is largely provided by the Settlement Department. The total cost of the riverain work, which is a charge on provincial funds, was Rs. 26,328 and of the rectangular survey Rs. 47,041. The latter sum will eventually be recovered from the irrigators when irrigation is begun. Riverain detachment.

12.—Revenue Surveys and Settlements.

259. *Kulu.*—Good progress was made by the Sub-Divisional Officer in the settlement of his charge. Orders were passed on the assessment report, and it is expected that the work will be finished early in 1913. No new assessments have yet been announced. Settlements.

Dera-Hamirpur-Una.—Progress has not been made to the extent anticipated owing to the difficulty of obtaining a competent staff for the measurement work in the hills where service is unpopular: but work has now begun in earnest. The settlement, which is an intricate and important one, will take longer and cost more than was anticipated.

Hoshiárpur.—Excellent progress is shown in the returns for the three tahsils of this settlement which will probably be completed in the time and at the cost estimated in the forecast. No assessment report had been submitted at the close of the year.

Ludhiána.—The settlement has been completed in a little over 3 as compared with the estimate of 3½ years, and has cost Rs. 1¼ lakhs less than the forecast of Rs. 5¼ lakhs. The increase in land revenue obtained, Rs. 4 lakhs, is Rs. 1½ lakhs better than the estimate.

Ferozepore.—Satisfactory progress has been made in map correction and record work: except in riverain villages remeasurement will be unnecessary. The excellence of the previous maps has greatly facilitated work.

Wazirabád-Gujránwála-Sharakpur.—Much special work has been undertaken in this settlement, which will probably now take a year longer than anticipated. In connection with the introduction of canal irrigation, 25-acre rectangles have been demarcated in the Government waste to facilitate

allotment, and in privately owned areas killabandi, the re-arrangement of holding in *killas* (acre rectangles) has occupied much time. Two of the three assessment reports have been submitted, on one of which orders were passed by Government.

Gurdáspur.—Map and record work was completed during the year. Assessments were announced in Batála and Gurdáspur, and orders were issued for Shakargarh. The duration and result (an increase of Rs. 3 lakhs) of the settlement are working out exactly as was forecasted, while the cost of the operations will be Rs. 2 lakhs less.

Amritsar.—As in Ferozepore the excellence of the old maps has reduced the labour of map correction which with the record work is well advanced.

Hissar.—Orders on the last assessment report were issued early in the year, and this difficult settlement was wound up by the end of May 1911. The cost of the proceedings which lasted 4½ years amounted to Rs. 5,31,000. The increase taken amounts to over Rs. 2¼ lakhs, but over half-a-lakh of this has been deferred for various periods.

In addition to the above regular settlements reassessment work was in progress in the Lower Chenab Colony, and in the colony and proprietary areas of the Lower Jhelum Canal in Shahpur district.

On the Lower Chenab Canal the orders of the Government were passed on the assessment reports of four of the colony circles and the new demand was announced before April 1911. The increase from these re-assessments is estimated at about Rs. 17 lakhs.

In Shahpur district the assessment report was received late in the year, and was under the consideration of Government at its close.

The demarcation of 25-acre rectangles on the Upper Chenab Canal area was practically completed and a similar undertaking in the area to be irrigated by the Upper Jhelum Canal was commenced at the instance of the Irrigation Department. Both surveys are in charge of the Settlement Officer, Gujránwála.

Preparations for future operations.

260. Preparations were made for settlements in the portion of the Shahpur district not irrigated by the Lower Jhelum Canal and in Siálkot, Gujrat, Lahore and Jullundur districts. In Gujrát and Lahore the experiment of revising maps and records prior to settlement proceedings is being tried, and in Gujrát good progress was made.

It has been decided that the Local Government shall in future have the power to sanction the undertaking of new settlements, a measure of devolution which will render possible a greater regularity in the number of settlements undertaken and in the establishment employed.

13.—Land Records.

Patwaris.

261. There are now employed in the province 8,343 patwaris and 455 assistants, it having been found possible to bring 27 patwaris under reduction in Lyallpur. On the average for the province each patwari has to deal with an area of 6,800 acres (of which 3,400 acres are cultivated): 4,700 fields assessed at Rs. 3,300 and included in 1,331 ownership holdings. The average pay of the patwari (assistants are paid less) is Rs. 12 per mensem exclusive of mutation fees and copying and inspection fees. The new scale of mutation fees introduced in December 1909 has materially benefited the patwari, who obtains on the average Rs. 17 per annum from this source. Some difficulty in obtaining really suitable patwari candidates is reported.

Patwarkhanas.

262. The cost of the patwari establishment was Rs. 12,74,959—a further slight decrease on previous figures. The vexed subject of the provision and maintenance of official residences for patwaris has again been before Government, but except that Government has in some degree accepted the principle that patwarkhanas must be provided at the expense of the State in newly colonised areas no definite pronouncement of policy has been possible. A recommendation of the Finance Committee of the Provincial Legislative Council that the onus of providing and keeping patwarkhanas in repair should be laid upon village communities is under consideration.

Kanungos.

263. The number of field kanungos (exclusive of those employed on special settlement staffs) is 419 or one to every 20 patwaris. Candidates are readily forthcoming. A scheme is being worked out for the amalgamation of the district and settlement kanungo establishments with a view to the equalisation of promotion and the training of a requisite number of men. As things are, the kanungo staff in districts not recently under settlement is reported as very mediocre.

Records.

264. The instructions, issued with the object of securing greater accuracy in the annual records in order that in time the necessity for general periodical revision may be obviated, have been carried out in the newly settled districts of the province. The instructions themselves are sufficient for the purpose; but to attain the ultimate object it is essential that vigilance should never be relaxed. For this reason it is advisable, where possible, to place an Assistant Commissioner or Extra Assistant Commissioner in charge of the revenue record work of each tahsil.

The number of mutations attested, 758,096, was less than usual, owing, it is said, to work in connection with the census. The new scale of mutation fees has caused a slight increase in the Government share and a large increase in the patwaris' share of the income. The scale is not as yet well understood. The experiment of employing selected kanungos to attest undisputed mutations of inheritance continues. It has not given appreciable relief to Tahsildars and Naib Tahsildars, but has certainly led to the prompt disposal of this class of case.

Changes in supervision.

265. As a result of the abolition of the office of Settlement Commissioner, the Director of Land Records has now been associated with the record and mapping work in settlements. His duties in regard to this work have been defined by new instructions issued.

14.—Waste lands and Government estates.

Area classification.

266. The area of unclassed forests and other Government lands under the control of the Deputy Commissioners is returned at approximately 7½ million acres, from which an income estimated at Rs. 41¾ lakhs is derived. The area is exclusive of State-owned forests in charge of the Forest Department, much of the plains portion of which is culturable. Two thirds of the 7½ million acres are included in the six districts of the Multán division, and indeed, with the exception of the Miánwáli, Shahpur, Gujránwála and Lahore districts, the area of State-owned land elsewhere is trifling. Over 1¼ million acres are leased for cultivation under the waste land lease rules, but practically the whole of this, over a million acres, is leased on single harvest leases in Montgomery district alone. Over 2 million acres in addition are leased under the Government Tenants Act principally in the Chenab Colony (Lyallpur, Gujránwála and Jhang 1,700,000 acres), in the Jhelum Colony (Shahpur 300,000 acres), the Chunian Colony (Lahore 78,000 acres) and the Sidhnai Colony (Multan 58,000 acres). These areas are gradually contracting as the original lessees purchase their allotments, a process accelerated by the recent decision to allow the privilege of purchase to peasant colonists who were originally granted an inalienable right of occupancy only.

The rakhs in the south of the Dera Ghází Khan district, which have been handed over to the Deputy Commissioner for management, were formerly worked at a loss by the Forest Department owing to their great distance from a timber market, the absence of any local demand for wood and the inaccessibility of the rakhs themselves for purposes of inspection and management; but the opening of the railway to Chachran has altered the situation and increased the value of the wood crop. A departure from the policy of abandoning these rakhs to cultivation, and a return of the system of forest management are under consideration.

Grazing leases.

267. In the Multán district the village contract assessment of tirni expired in October 1910. Fresh assessments were sanctioned by the Financial Commissioner amounting to Rs. 19,333—an increase of Rs. 2,528 over the previous quinquennial assessment. The camel tirni was fixed at Rs. 15,000—a decrease of Rs. 2,399 from the previous figures due to a large decrease in the

Chapter II.
ADMINISTRATION OF THE LAND.

number of camels. The auction of leases on the chak system for two years also took place and resulted in a total increase of Rs. 730 over the last biennial bids.

Colonization.

268. Separate reports are received by Government for the operations in the Chenab, Jhelum and Chunian Colonies, though the special colonization staff has been withdrawn and the administration is being assimilated as far as possible under the Deputy Commissioner to that of the province generally. The reports deal only with the areas of what was originally Government land on each canal, which have been colonized, and not with the proprietary areas also irrigated by these canals.

Lower Chenab Colony.

269. The allotted area in the Lower Chenab Colony has now reached 1,842,561 acres, of which 103 per cent. was sown during the year, remissions for failure being needed on 5 per cent. of this area only. The area largely exceeds the maximum area of design for the canal. Of the grants on service conditions, the question of the allotments to the Grantee Camel Corps is under reference to the Government of India. The grants to village headman on mule-breeding conditions are generally fulfilled and the lucrative nature of mule-breeding from the zamindar's point of view is beyond all doubt; the conditions give good results to Government. The future of the plantation grants is under consideration.

The re-assessment of the circles into which the Colony is divided is being carried out as the original terms of engagement expire. The new assessments of the three Jhang Branch Circles, and one of the Gugera Branch circles were introduced during the year. The previous system of fluctuating assessments is being retained, but instead of separate demands for "owner's rate" and land revenue a single land revenue demand is being taken. The demand on account of "occupier's rate," which is the charge taken by the canal department for the water supply, remains generally unchanged.

As it is now established beyond all doubt that the vast majority of colony villages receive a stable supply of irrigation more than sufficient for their prosperity, the abolition of the system of holding-to-holding remissions for failed crops was put into operation from kharif 1911 in the circles which had been reassessed. The villages where water-supply is still deficient continue to receive holding-to-holding kharaba; and those in which the soil is markedly inferior are to be given a lower schedule of occupier's rates. This departure coupled with the rise in the revenue rates will have the effect of encouraging more thoroughness in cultivation and more care in the use of water. It will be interesting to observe whether it will also result in any contraction in the rabi area which has always been largely inflated on the Lower Chenab Canal by wide speculative sowings which under the old system paid no demand if they failed owing to deficient winter rains.

The progress of the acquisition of proprietary rights by nazarana-paying grantees is satisfactory. Only 80 out of 1,150 grantees have not yet availed themselves of the privilege of acquiring proprietary rights at the very favourable rates represented by the sanctioned nazarana schedule. All indications point to the conclusion that the peasant colonist will not be slow to avail himself of the option now bestowed on him of purchasing proprietary rights at the low rate of Rs. 12-8-0 per acre. In Lyallpur Rs. 1,68,490 were paid in before the close of the financial year 1910-11, and a similar rush of payments amounting to Rs. 19,90,752 occurred in September and early October.

The prices obtained at the sale of land for the extensions of Lyallpur and Sangla towns hardly confirm the view alluded to last year that there has been an over multiplication of Colony towns. The future finance of the towns is a subject for anxiety. Octroi is an unsuitable tax for these export towns, and the fact that the house sites are assessed to land-revenue introduces some difficulty in adopting any high scale of house-tax. Most of the local needs of these towns should, however, be met by local taxation, and their individual prosperity is a matter of such certainty that the difficulty of meeting local needs does not lie in the impossibility of raising enough money by local taxation but in devising a form of taxation which will fairly tax the prosperity of all classes enjoying the not inconsiderable local amenities of these towns.

The opening of the Chichoki Mallian-Shorkot Road railway for through traffic to Karachi is an important event in the development of the portion of the Lower Chenab Colony watered by the Gugera Branch. The circumstance that over Rs. 22 lakhs were remitted by money-order from the Lyallpur part of the colony alone to other districts is most significant, and leads us to a realization of the fact that it is not the position of the fortunate colonist alone which has been improved out of all measure by this great colonization scheme, but that it has had a marked effect on the prosperity and stability of the agricultural population at large in the province.

Lower Jhelum Colony.

270. The total allotted area in the Lower Jhelum Colony is 394,044 acres, of which 90 per cent. was sown during the year, remission on the sown area amounting to 8 per cent.

An important change in the horse-breeding conditions, of the nature of a modification of the strictness of the primogeniture rule, has been made in the direction of the inclusion of the sonless widow as an heir, where the present holder of a grant desires this condition. The primogeniture rules of succession which have hitherto been in force in this colony for the larger non-horse-breeding grants as well as for all horse-breeding grants will be abolished for the former by the new Colony Bill, when passed. The enforcement of succession by primogeniture for the peasant horse-breeding grants is becoming increasingly difficult, as families make the colony more and more their permanent home, and its evasion by private agreement is now the rule rather than the exception. The unpopularity of these conditions with younger sons, and no doubt with parents too, was from the first an inevitable incident of the tenure, but so long as the horse-breeding experiment is under these conditions successful and so long as these conditions are essential to its success it is important that nothing should be done to disturb the arrangement.

Records-of-rights have been completed for the whole colony, and the assessment report for the whole area watered by the Lower Jhelum Canal in Shahpur district has been submitted. The problem of assessment here offers more complications than on the Lower Chenab Canal owing to the large number of proprietary villages in each circle and the differences in holdings, tenancies and rents between these and the colony villages, the instability of irrigation in some of the newer parts of the colony and the large proportion of inferior land in the southern Assessment Circles.

In spite of the ravages of plague the population of the Colony shows a satisfactory increase. The towns in the Colony have been much hampered in their development by plague; but have advanced considerably and are now falling into line with other towns and being administered as notified areas. The growth of the co-operative movement and its outlet in a co-operative agriculturists' cotton factory is brought to notice.

Chunian Colony.

271. In the Chunian Colony the allotted area has now reached 80,171 acres : 103 per cent. of this area was sown, and remission for failed corps, which in this colony only affect the water rate collections (the land revenue being a fixed demand), amounted to 5 per cent. only. Occupancy rights have been awarded in most of the villages, but proprietary right cannot be purchased until the expiry of 15 years from allotment, a condition which has not yet been fulfilled in any case. The assimilation of this colony to the general administration of the district is more marked than is the case in the larger colonies already referred to.

15.—Wards Estates.

Number of Estates.

272. At the end of September 1911 the estates under the Court of Wards numbered 51, with a total income of Rs. 23 lakhs. Five estates have an income exceeding Rs. 1 lakh. The total assets are valued at Rs. 414 lakhs of which Rs. 121½ lakhs represent the capitalised value of land revenue assignments, 191 lakhs the estimated value of the land and Rs. 56½ lakhs the value of house property. The most important estate, that of the Nawab of Mamdot, is being retained under management at the request of the Nawab himself, who is now of age. Twenty-one wards attended the Aitchison College during the year.

Results.

273. The usefulness of the Court in saving from reckless dissipation or improper diversion the property and funds of families of note has been abundantly proved, and successful management is a commonplace of the Court of Wards administration. The difficulty of investing surplus funds is a continual problem as real property, the most advantageous form of investment, is not always available. An audit of the accounts of Court of Wards estates is carried out by the Examiner of Local Fund Accounts with great advantage to the administration.

16.—Revenue and rent-paying classes.

Revenue-paying classes.

General.

274. Omitting village common and Government lands, 3,523,685 persons hold 39,489,388 acres of land in 3,082,348 holdings. Seven acres in each holding on the average are cultivated, and the average assessment per cultivated acre is Re. 1-1-9. One-sixth of the total owned area is owned by persons who are not members of an agricultural tribe and five-sixths by members of the notified tribes. Only 11 per cent. of the cultivated area is under mortgage. The percentage of the total cultivated area mortgaged is heaviest in Siálkot and Gurdáspur, and, omitting Lyallpur, where conditions are abnormal, lightest in Rawalpindi, Montgomery and Hissar.

Transfers (all classes of rights).

275. The area involved in the gifts made in the year under report does not differ materially from that of the previous year. Exchanges are unimportant because the differences in the figures are generally due to regrants of Government land in the Canal colonies or to adjustments made in the course of killabandi operations. The number of mortgages was 97,877 as compared with 112,061 in the previous year. Last year a cultivated acre of mortgaged land represented a value secured of Rs. 95 per acre. In the present year the mortgage money secured per acre is Rs. 101. The area sold is less than last year; but the price obtained per cultivated acre has risen from Rs. 115 to Rs. 124. The multiple of the land revenue which the sale money represents is an important guide to the actual pitch of the land revenue assessments. The multiple is large in all districts except Delhi and Gurgaon, where it is 39 and 42, respectively, indicating that the purchaser expecting a 5 per cent. return on his purchase money estimates the rent to be three times the land revenue even in these two districts. Omitting Lahore and Simla, where sales of urban property influence the results, the figures indicate an extreme lightness of demand in the districts of Hoshiárpur, Jullundar, Ludhiána, Ferozepore, and Amritsar and in all the districts of the Ráwalpindi and Multán divisions.

Sale and mortgage of proprietary right.

276. As regards sales of agricultural land held in proprietary right, an owner now can expect to get Rs. 129 per cultivated acre and on the average the price he receives per acre is 123 times the land revenue assessed thereon, which shows the purchaser's estimate of the net income from land to be seven times the land revenue. The total cultivated area under usufructuary mortgage was somewhat less than last year, and the area released from mortgage exceeded the area newly mortgaged. There is a steady increase in the value of land for the purpose of mortgage.

Land Alienation Act.

277. There is little to record under the Land Alienation Act. The Gaur Brahmins of Hissar, excluding tahsil Sirsa, were included in the Gaur Brahmin group in the Delhi division. The Koreshi Sheikhs of Hoshiárpur were included in the general group of agricultural tribes in the Hoshiárpur district. Bodlas, Mahtams and Kharrals were added to the Gujránwála district group of agricultural tribes owing to the transfer to that district of the Sharakpur tahsil of Lahore. Mazbi Sikhs were notified as an agricultural tribe in a separate group in each of the districts of Lyallpur and Gujránwála. Deputy Commissioners have been directed not to withhold sanction to sale by members of an agricultural tribe in cases where the *bonâ fide* object of the purchase is to obtain a site for a workshop or a factory or a building site close to a town or village, if they are satisfied that the intention is not merely to evade the Act. It is not the intention of the Act to offer any obstacle to legitimate desire for commercial development. Benami transactions and evasions are reported to have come to light in several districts. A case quoted in the Amritsar district

report show how insecure the position of the real mortgagee is in the benami transaction, as in the case in question the puppet put in possession by the real mortgagee colluded with the mortgagor in denying the claims of the mortgagee to the profits from the land.

In mortgages the agricultural tribes lost 25,000 acres; in sales they gained 14,000 acres, and in redemptions they gained 20,000 acres. Thus on paper the agricultural tribes gained some 9,000 acres. In effect these figures are valueless as they obscure the main facts of the situation. Sufficient evidence that the Act is fulfilling its purpose is given by the following comparison. For the three years preceding the passing of the Act the area sold was thrice and the area mortgaged was more than twice what it is now. And yet the area redeemed now in a year falls little short of the area redeemed in 1899, while the mortgages now are ordinarily only for a term.

Rent-paying classes.

Cultivating occupancy.

278. In the section of the last chapter describing land tenures will be found a table showing the distribution of the land between owners and the various classes of tenants. The proportion of the cultivated area occupied by self-cultivating owners, which had fallen from 46·3 to 44·4 per cent. during the preceding decade is shown as having risen to 47·3 per cent. The effect on the figures of the inclusion of Government tenants among self-cultivating owners, as there explained, is clear from the Lyallpur figures, where cultivating owners hold 56·2 per cent. of the whole. In Shahpur, which is largely a colony district, the proportion is 50·9 per cent.

Rents.

279. The latest quinquennial return of rents is for the year ending June 15th, 1907. The great majority of occupancy tenants pay cash rents: 79 per cent. of the area so held being cash rented. In 1902 this area was 83 per cent. of the whole. The decrease does not, however, necessarily indicate any growing popularity of kind rents in occupancy holdings. It is probably due to the present classification as owners of self-cultivating Government tenants in the colonies, all of whom of course pay Government cash rents. The matter is explained in paragraph 156.

Tenants-at-will hold 11,658,325 acres, of which 31 per cent. only is cash rented, 69 per cent. being held by tenants paying rents in kind (batai). The figures in 1902 were 36 per cent. and 64 per cent. respectively. Here again it is too much to assume a great increase in the popularity of kind rents, though some such movement has possibly taken place. The form of rent taken is to a large extent a matter of local custom, and it is just in those areas where kind rents preponderate that the greatest increase in cultivation has taken place in the decade. Moreover, the tenants of Government tenants now appear in the statements as the tenants instead of the Government tenants themselves. The former usually pay rents in kind, the latter, as explained, in cash.

Enhancement of rent of occupancy tenants.

280. There is an increase of 54 as compared with last year in the suits instituted for the enhancement of rent. Of the 1,813 cases of this kind instituted during the year, enhancements of rent were granted in 1,416. The districts in which institutions were numerous are Hissar, Hoshiárpur, Jullundur, and Gurdáspur. In Hissar and Gurdáspur the numerous institutions are ascribed to the announcements of new assessments and settlement operations. In Jullundur the cause list under this head is always heavy. In Hoshiárpur the cases have decreased by 469, while in Rohtak and Delhi, where the cases were numerous in 1909-10, the position is now, with the close of settlement operations, normal again. It has been remarked that these cases tend to become numerous at two periods, that immediately preceding the inception of settlement operations and that immediately succeeding the announcement of the new assessments, and the suggestion is made that Revenue Courts should hold over the cases instituted in the earlier period till reassessments have been announced. The best agency, however, for the disposal of such suits is available when settlement operations are actually in progress, and if landlords prefer to institute their suits at that time, it is doubtful whether it would be either right or advantageous to hold them over. Tenants are sufficiently protected by the provisions of section 24 of the Tenancy Act from a double enhancement.

Ejectment of tenants.

281. Proceedings relating to the ejectment of tenants with a right of occupancy continue unimportant in the province.

In regard to tenants-at-will, a noticeable feature is the marked decrease during the last ten years in the use of all the sections of the Punjab Tenancy Act by which a landlord can proceed towards the ejectment of a tenant-at-will, while the suits by tenants to contest liability to ejectment show an increase. The ravages of plague which have decreased the ranks of the tenant and menial class and the great demand and lucrative prospects for tenants in the new colonies have placed the tenant class in a strong position. The consequent delicacy with which the landlords have to treat them in order to retain them, when considered in relation to the rise of cash and other rents which has been brought out in the statistics of so many recent reassessments in this province, support the conclusion that agricultural prosperity has in the last decade made steady progress despite the ravages of plague and the increase in the cost of labour.

MISCELLANEOUS.

Land revenue assignments.

282. Assignments of land revenue amounted to rather over Rs. 29½ lakhs, a slight increase on last year's figures. Of this over 20½ lakhs are assigned for the benefit of private individuals. The percentage of land revenue assigned to the total land revenue of the province is 9·5 as against 9·7 in the preceding year. The assignments in Ludhiána and Gurdáspur were revised during the year in the course of settlement operations in those districts. Assignments to military pensioners were made in Rohtak, Ludhiána, Gujránwála and Ráwalpindi to the total value of Rs. 2,400.

Descent of Jagirs Act.

283. Two jagirs were notified during the year under Punjab Act IV of 1900, both in the Gujránwála district. The declarations of a rule of integral descent were based on written instruments. The approximate value of the jagirs thus notified was Rs. 636-8-0. The total number of jagirs gazetted under the Act is now 130, valued at Rs. 7,80,636-8-0.

Land Acquisition Act.

284. Nearly 7,000 acres were acquired for public purposes during the year, of which some 3,200 acres were for railway extensions, 3,120 for canals, 43 for roads and 635 for buildings and miscellaneous works. It is everywhere the case that the land revenue assessment is no longer a real guide for the valuation of land. The rise in the value of agricultural land is a commonplace of Punjab economics, but the enormous prices paid for urban and suburban sites are a phenomenon of no less importance. Settlement Officers probably do not take sufficient cognizance of such developments when submitting their proposals for assessment circles containing urban areas.

Punjab Land Preservation (Chos) Act.

285. With a view to confining the destructive action of the torrents in Ambála a further grant of Rs. 1,000 was made to the Deputy Commissioner of the district. In spite of the limited period of last year's operations, 5,185 bighas of land were partially reclaimed by planting grass. Operations this year are confined to the Rupar sub-division, and the grant will be spent in further planting and in rewards to those who erect protective works.

Under section 8 (1) of the Act a notification has been issued in the case of seven villages affected by the Dada Cho in Hoshiárpur directing persons possessing proprietary or occupancy rights in the bed of the cho to take measures within three years to reclaim the land. The notification issued in September, and in spite of the difficulties of the limited application of the section itself and the apathy of a number of the persons concerned, it is hoped that the experiment may begin to show results next year.

An area of 3,083 acres was acquired in perpetuity under section 8 (2) of the Act in 31 villages affected by the Mahli Cho. It was decided to spend Rs. 10,000 this year in planting *kharkhana* grass and trees and building ten masonry dams. Professional advice is being obtained. The land, when reclaimed, is to be handed back to the people at the price of reclamation, and accounts have to be kept to enable the eventual expenditure to be distributed over the sections of the bed in each estate. From every point of view accordingly it is desirable not to delay the work and to keep expenditure down as low as is compatible with efficiency.

CHAPTER III.

PROTECTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Police.—(1) Report on the Police Administration of the Punjab for the year 1911.

(2) Report on the working of the Criminal Tribes Act for the year 1911.

(3) Report of the Chemical Examiner to Government, Punjab, for the year 1911.

Criminal Justice.—Report on the Administration of Criminal Justice in the Punjab and its Dependencies during the year 1911.

Prisons.—Report on the Administration of the Jails in the Punjab, 1911.

Civil Justice.—Report on the Administration of Civil Justice in the Punjab and its Dependencies during the year 1911.

Registration.—Note on the Registration Returns of the Punjab for the year 1911.

Legal affairs of Government.—Report on the administration of the legal affairs of the Government of the Punjab for the year 1911.

Local Boards Administration.—Report on the Administration and Accounts of the District Boards in the Punjab for the year 1911-12.

Municipal Administration.—Report on the working of municipalities in the Punjab during the year 1911-12.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistics of British India, Part VI—Administrative and Judicial.

Part VIII—Local Funds.

17.—LEGISLATING AUTHORITY.

Sources of legislation.

286. There are four legislative bodies from which emanate laws applicable to the Punjab. They are—

I.—The Imperial Parliament.

II.—The Legislative Council of the Governor-General of India.

III.—The Governor-General in Council.

IV.—The Council of the Lieutenant-Governor of the Punjab.

Authority for Frontier Regulations.

287. Under the Statute 33 Vic., Cap. 3 of 1870, the Governor-General in Executive Council may make regulations having the force of law for territories to which the provisions of Section 1 of that Statute have been extended. The tracts in the Punjab, for which regulations have been made in accordance with this Statute, are now the districts of Mianwali and Dera Gházi Khan, the tahsil of Leiah in Muzaffargarh and the *pargana* of Spiti in the Kulu sub-division of Kangra. The procedure laid down by this Statute assigns the initiative in such legislation to the Lieutenant-Governor, who proposes to the Governor-General in Council the draft of each Regulation with the reasons for proposing the same. When the draft has received the assent of the Governor-General in Council and has been duly published in the Gazettes it has the like force of law as if it had been made by the Legislative Council of the Governor-General. The present Frontier Crimes Regulation (III of 1901), which is in force in the above tracts, Spiti excepted, replaced a similar Regulation of 1887 and embodied all the amendments suggested by 14 years' experience of its administration. The Frontier Murderous Outrages Regulation (IV of 1901) also applies to the same tracts. For Spiti there is a special Regulation, issued in 1873.

Punjab Provincial Council.

288. A local legislature for the Punjab was first created from 1st May 1897 under section 44 of the Statute 24 and 25 Vic., Cap. 67 of 1861, by proclamation in the *Gazette of India*, dated 9th April 1897, up to which date the special legislation for the province had been provided by the Imperial Legislature. Under this proclamation a Council of nine nominated members was created.

The first Council was nominated by a notification of the Punjab Government in the Home Department, No. 1062, dated 12th October 1897; by notification No. 1063 of the same date the first day of November 1897 was fixed as the date of the first meeting; and under notification No. 1064 of the same date rules for the conduct of business at meetings of the Council were published.

Powers of the Punjab Council.

289. The powers of the Punjab Council so constituted were purely legislative and were exercised subject to the control of the Governor-General in Council, to whom all Bills included under the provisions of Section 43 of the Indian Councils Act, 1861, or containing penal clauses, were submitted for previous sanction, and to whom also every project of law was forwarded for transmission to the Secretary of State before it was introduced into Council. Before any measure, carried through the Council, could become law, it required the assent of the Lieutenant-Governor and of the Governor-General in Council. No rules under the Statute 55 and 56 Vic., Cap. 14 of 1892, amending the Indian Councils Act, of 1861, which authorised the discussion in Council of the Annual Financial Statement of the Local Government and the asking of questions on matters of public interest, were made, nor regulations, as in other Provinces, providing for the nomination of non-official Members on the recommendation of public associations, municipal and other bodies.

Legislation.

290. The Legislative Council speedily justified its existence, and after framing a General Clauses Act, which was passed as Act I of 1898, proceeded to add to the Statute book the following important measures:—

The Punjab Riverain Boundaries Act (I of 1899), an addition to the Punjab Land Revenue Act of 1887, by which power was given to substitute fixed village boundaries on the rivers of the province for the previous system by which the boundary depended on the vagaries of the deep stream of the river. Under this Act all riverain boundaries have now become fixed within the province, but so far all efforts to induce the Government of the United Provinces to co-operate in extending the law to the Jumna have failed.

The Punjab Land Preservation (Chos) Act (II of 1900) enabling Government to compel, or take, action to arrest the destructive effects of the hill torrents which pour down from the Siwaliks.

The Punjab Descent of Jagirs Act (IV of 1900) already explained in paragraph 136.

The Punjab Military Transport Animals Act (I of 1903) providing for the enumeration and registration of animals fit for transport purposes and for the compulsory acquisition of such animals in time of war and impressment for hire for purposes of military transport at any time.

The Punjab Court of Wards Act (II of 1903) referred to in paragraph 98.

The Punjab Pre-emption Act (II of 1905) referred to in paragraph 140.

The Punjab Minor Canals Act (III of 1905) framed to meet the case of the smaller canals, to which the Northern India Canal and Drainage Act (VIII of 1873) had been found to be inapplicable.

The Colony Bill, passed in Council on February 28th, 1907, failed to obtain the assent of the Governor-General and did not become law.

During the same period the only important enactment dealing exclusively with the province which was passed by the Imperial Legislature was the Punjab Alienation of Land Act (XIII of 1900) explained in paragraph 138. The amending Act there referred to, however, was passed by the Punjab Council as Punjab Act II of 1907.

291. The Council, as originally constituted, was in existence for 12½ years, and came to an end at the close of 1909, when, in common with the other provinces possessing Legislative Councils, important changes were effected in the constitution and procedure of the Local Council, under the provisions of the Indian Councils Act of 1909 (9 Edward VII, Cap. 4). This Act came into force on 15th November 1909 under Government of India, Home Department, notification No. 4212 of that date, and on the same day regulations for the nomination and election of members were notified (Government of India, Legislative Department, notification No. 19, dated 15th November 1909). The Council, as at present constituted, ordinarily consists of 24 members, of whom 5 are elected and 19 nominated. Not more than 10 nominated members may be officials. In addition there may be 2 nominated expert members. These numbers do not include the Lieutenant-Governor, who is *ex-officio* President. Reconstitution.

The 5 elected members are elected as follows:—

(1) One by the Punjab University.

(2) Three by municipal and cantonment committees, arranged in the Cis-Sutlej, the Central and Western groups.

(3) One by the Punjab Chamber of Commerce.

Under section 4 of the Act a Vice-President is appointed, and the non-official members have the privilege of electing from among their number a representative to serve on the Imperial Council.

292. The legislative powers of the new Council are exercised in the manner already described in the case of the old Council. The changes made, however, involve a very considerable enlargement of the Council, the introduction for the first time of a system of election of members, and the creation of a non-official majority. At the same time the rules regulating the procedure of the Council have been so modified as to give it very much wider opportunities of expressing its opinion on administrative matters. Questions may be asked and resolutions moved on matters of public interest; three non-official members sit on the Finance Committee, and in the discussions on the budget members are enabled to take a real and active part in shaping the financial proposals of the year. Powers of the new Council.

18.—Course of Legislation.

293. During the year the Hon'ble Sir J. M. Douie, K. C. S. I., resigned his seat on retirement, and the Hon'ble Mr. C. A. Barron, Chief Secretary, was nominated in his place. The Hon'ble Mr. Diack, on return from leave, was nominated in place of Mr. Humphreys who vacated his seat. Mr. Diack was also appointed Vice-President in place of the Hon'ble Sir James Douie. The Hon'ble Mr. Farrant was nominated in place of Mr. W. B. Gordon, and on his retirement and resignation the Hon'ble Mr. Scratchley was nominated. Changes among members.

On the death of the Hon'ble Sardar Partap Singh, Baba Gurbakhsh Singh, Bedi, was nominated, and the Hon'ble Mr. Muhammad Shafi was elected by the non-official members to the vacancy on the Imperial Council, caused by Sardar Partap Singh's death.

Among the official members Lieutenant-Colonel Parsons died while on leave.

294. Five meetings of the Legislative Council were held, three at Lahore, one at Simla and the other at Delhi in December 1911 after the Coronation Durbar. Business transacted.

Four fresh Bills were introduced in Council, three of which were passed and became law, while the fourth, a Bill to establish village criminal tribunals, was subsequently withdrawn. Of the four Bills remaining over from the previous year, the Municipal Bill and the Bill to amend the Punjab Courts Act were passed; while the Bill to establish village civil tribunals and the Colonies Bill were advanced towards their final stages. The Acts passed which became law during the year were—

III of 1911, The Punjab Municipal Act.

IV of 1911, The Delhi Durbar Police (Amendment) Act.

I of 1912, The Punjab Courts (Amendment) Act altering the law of civil appeal.

II of 1912, The Punjab Land Revenue (Amendment) Act giving the Local Government power to sanction the undertaking of settlement operations.

III of 1912, The Punjab Tenancy (Amendment) Act laying down the procedure to be followed where a revenue matter is raised in a civil court.

Forty-six questions were put and answered, but no resolution was moved during the year.

India Acts.

295. The Acts of the Imperial Legislature, more particularly affecting the province, passed during the year, are—the Criminal Tribes Act (III of 1911), the Indian Factories Act (XII of 1911), the Co-operative Societies Act (II of 1912), the Provident Insurance Societies Act (V of 1912) and the Indian Life Assurance Companies Act (VI of 1912).

19.—Police.

General Police Force.

General.

296. The total number of true cognisable cases dealt with by the police rose from 41,320 to 46,503: in itself a serious addition to the labour of the force; but the disquieting feature of the statistics is that the increase has been mainly under serious offences against the person and property, especially in the districts of Siálkot, Gurdáspur, Gujranwala and Ferozepore. It is pointed out that in the past 10 years reported crime has risen from 26,154 true cases in 1901 to 38,152 in 1911, while the number of cases successfully dealt with has remained practically stationary. An explanation of this serious state of things is sought in the representations that there has been as yet no improvement in the moral support given to the police by the general public to counteract the restrictions imposed by the eradication of discreditable methods and the insistence on straightforward, humane and honest working; that the courts have set up an almost impossible standard of evidence; and that in fact the limit of the capacity of the present force has been reached, resulting as crime increases in less thorough investigations. Roughly speaking, only 50 per cent. of true cases are brought to trial where offences against the State, public tranquillity, person or property are concerned and a conviction is obtained in one-third of such true cases. In regard to the low percentage (69) of convictions to cases tried, the statistics show the importance of speedy disposal of cases, the percentage rising or falling in districts according to the attention paid to this matter.

Violent crime.

297. The heavy increase in murders from 409 to 476 and attempts at murder from 59 to 80 is a disturbing feature of the year's returns. Jhelum, Rawalpindi and Attock are among the districts from which most cases of murder are reported: the conditions in these districts are not normal, however, as they have been infested with a dangerous gang of well-armed dakaits whose example has had a far-reaching effect on the turbulent inhabitants of this part of the province. Closely connected with the increase in murder is the increase in dakaiti, of which 36 cases were reported in 1909, 48 in 1910 and 100 in 1911; 21 per cent. alone leading to a conviction in the last year. The cases are reported mainly from the Western Range and fall into three groups,—those

committed by gangs of Afghans and others from the frontier, those committed by organised gangs in the north of the province, and finally those by casual gangs in the Central and Eastern Ranges. The frontier gangs have shown great activity and penetrated far into the province, the district of Dera Gházi Khan being particularly at their mercy. These gangs are becoming each year more dangerous and daring, and encourage many imitators. The dakaitis in Rawalpindi, Jhelum and Attock constitute a wave of serious crime such as periodically occurs in all parts of India. Owing to the attitude of the people the work of hunting down the outlaws is one of considerable difficulty. The increase in the closely allied offence of robbery was from 191 to 248 cases.

Burglaries and thefts.

298. Under burglaries an increase of 2,220 true cases is reported with a percentage of conviction of 11 per cent. only, and under thefts an increase of 606 cases with 39½ per cent. convictions: under cattle theft alone the increase in cases was not proportionate to the increase in other classes of crime, and the explanation doubtless lies in the failure of the fodder crop. Boat patrolling in Dera Gházi Khan, Muzaffargarh and Multan has had an excellent deterrent effect on this class of crime.

Over Rs. 21 lakhs worth of property was 'stolen' during the year, of which 30 per cent. was recovered: in burglaries the recoveries were 16 per cent., in theft cases 44 per cent., and in dakaitis 4½ per cent. only.

Investigations on Magistrates' orders.

299. Much of the time of the police is taken up with investigations in cases referred by Magistrates under section 202, Criminal Procedure Code, and the increasing tendency to refer cases is unsatisfactory. The cognisable cases are almost entirely false, and much valuable time is wasted on the investigations.

Securities.

300. The number of persons called upon to furnish security for good behaviour has decreased, and the decrease in the efficacy of the system, now generally admitted, is attributed to the perfunctory nature of the proceedings, the difficulty of getting respectable evidence, the slight deterrent effect of the proceedings, and the failure to confiscate the security on conviction. Security to the amount of Rs. 9,651 only was forfeited during the year, and of this 64 per cent. alone was collected. Securities under sections 106 and 107 to keep the peace were forfeited to the amount of Rs. 4,290, and of this 26 per cent. alone was collected. To make any system of security an effectual preventive of crime, the people must be made to understand that breach of the conditions of the bond will lead to prompt forfeiture and recovery of the amount of the bond.

Surveillance and patrolling.

301. Little success was obtained in the surveillance of prisoners under section 565 of the Criminal Procedure Code, and, as regards bad characters under ordinary police surveillance, it is pointed out that it is futile for the police to expect to restrain such men from crime by merely trying to watch them, which is all that can be done so long as their movements are unrestricted by law.

Since the Police Commission, rural patrolling has practically ceased, to the great handicap of the police. It seems to have been overlooked that no objection was made by the Commisssion to officers being sent out on patrol provided they are sent with a special object.

Railway Police.

302. During the year 166 miles of railway were added to the jurisdiction of the Punjab Railway Police, bringing the mileage up to 4,116 miles. The number of cognisable offences of all kinds reported was 2,394. The working of the Railway Police has been satisfactory, and good results have been obtained in most of the important cases which occurred during the year.

Establishment.

303. The appointment of Circle Inspectors is one of the reforms introduced by the Police Commission, and where the proper stamp of man has been available the system has proved an entire success, but in many cases the Circle Inspectors have not realised the full extent of their responsibilities and duties, and disappointing results have been the consequence. The large proportion of direct appointments of upper subordinates enforced by the Commission still causes discontent in the lower ranks and has resulted temporarily in the force

being handicapped by a large number of inexperienced Sub-Inspectors. Experience has further shown that, on reorganization, the number of head constables was reduced too far, and there are general complaints of the paucity of these officers.

Honours and Rewards.

304. Mr. French, the Inspector-General, received the honour of a K. C. V. O. at the Delhi Durbar, and the order of M. V. O. was bestowed on Messrs. Stewart, Stead and Glascock. The Royal Victorian medal was conferred on nine Inspectors and two European Sergeants, and the title of Raja on one Inspector. Lesser titles also were given in five cases. The King's Police medal was granted to three Deputy Superintendents and three Inspectors. Other rewards were granted to 4,315 officers and men.

A sum of Rs. 13,446 was paid in rewards to the public for assistance in police cases, and a further sum of Rs. 1,652 for the recovery of dead bodies from canals and rivers. In certain cases the rewards were distributed in open durbars, with excellent effect, but more advantage might be taken for this purpose of public fairs and functions.

Finger Print Bureau.

305. The work of the Finger Print Bureau continues to expand: 185,386 finger print slips are now on record. The number of references received was 21,711, of which 19 per cent. were successfully traced, including 3,877 previously convicted persons. Expert evidence was given in 809 cases, and written opinions supplied in 692 cases, of which 583 were civil cases. The fees realised by Government in civil cases amounted to Rs. 5,820.

CHEMICAL EXAMINER.

Work performed.

306. The work that the Chemical Examiner is called upon to perform continues steadily to increase. In 1911 medico-legal cases investigated (the principal part of the work) amounted to 1,301 with 4,763 articles. The percentage of detection in every class of case is high, and is evidence that discrimination is shown by officers submitting cases for examination. In human poisoning cases arsenic was the most common poison detected, though opium also was frequently discovered. In cattle poisoning cases no other poison but arsenic was found. There is little evidence that the rules framed in 1907 under the Poisons Act to regulate the sale of poisons have done anything whatever to check this form of crime or to facilitate detection.

General analyses were made by the Examiner in 361 cases: the substances submitted for examination consisting chiefly of drugs, water and goods.

It was found necessary during the year to adopt measures to check the increasing tendency to summon the Chemical Examiner and his assistants to give evidence in Court.

RURAL POLICE.

General.

307. Twelve zaildars, 461 lambardars and 358 chokidars were punished for neglect of their police duties, but, on the other hand, 180 zaildars, 406 lambardars and 234 chokidars received rewards for assistance given. Two chokidars in Shahpur met their deaths at the hands of offenders whom they attempted to capture. In most districts village chokidars are inadequately rewarded for assistance given, and have accordingly little incentive to good work. It is, however, fairly generally held that they are useless for the prevention of crime, and give little assistance in cases.

CRIMINAL TRIBES.

General,

308. Act XXVII of 1871 was replaced by Act III of 1911 during the year, but it was too late for advantage to be taken of the extended powers given, especially over wandering tribes. The number of males on the register is 20,777, more than half of whom are Sánsís and Báwarias: of the total, 8,205 persons are exempt from roll-call.

There is ample evidence to show that exemptions and passes are being liberally granted, and that the restrictions of the Act are being applied to incorrigibles only. If these latter absent themselves, it can safely be presumed

that in 95 per cent. of cases it is for the purpose of committing crime. The steady decrease year by year in the number of absentees is another proof that discrimination is being exercised, and also that a stricter supervision is kept over non-exempted persons. On the other hand, the Mahtams appear to have taken advantage of the exemptions given. The conduct of the Ludhiana Sánsís has led to a proposal to enlist 30 of them in the District Police.

The district reports go to show that the provisions of the Act are working satisfactorily, and that steady progress is being made. Fewer convictions, fewer absentees, more rewards and no complaints against village officials during a year when there was a general increase in crime, particularly in offences against property, are the facts which tend to show that progress has been made. The outlook generally is brighter than it has been during previous years.

Salvation Army reclamation scheme.

309 The Salvation Army has been quietly but steadily extending its scheme for the reclamation of criminal tribes. It has, with the assistance of the Local Government, established four settlements for members of these tribes: some success has already attended its efforts, and the prospects of the scheme are decidedly encouraging. The settlements established are Kot Mohkal in the Sialkot district, Changa Manga and Danepur in the Lahore district, and Chawa in the Ludhiana district. Kot Mokhal is occupied by some 1,000 Pakhiwaras, who are employed on agricultural operations and weaving. Chawa is now occupied by some 70 to 100 Sánsís, who are taking kindly to gardening, carpet-weaving and silk-reeling. At Changa Manga the wood-cutting is unpopular, as it involves hard and uncongenial toil, but silk-worm-breeding and silk-reeling have recently been introduced with success. Danepur, situated in Lahore itself, is the most recent venture, and one which, fostered by the personal interest of Sir Louis Dane in the undertaking, has a promising future before it. A dairy is being established there, which should not only prove a source of profit, but supply a want which has long been felt in Lahore. The other industries in this settlement are weaving, market-gardening and silk-reeling.

Publication.

310. Information concerning the criminal tribes has been brought together during the year in an excellent hand-book.*

20.—Criminal Justice.

General review of offences.

311. The total number of offences reported during the year 1911 was 204,347; of these 138,201 were returned as true. The number of cases brought to trial was 121,120, involving 281,315 persons. These figures are the highest yet recorded. The increase in true cases is chiefly under "offences against the Indian Penal Code," under which head 143,258 cases were reported and 75,093 were brought to trial. Although the year was one of scanty autumn rainfall, and most districts suffered from a short kharif crop and scarcity of fodder, the agricultural conditions are only partly responsible for the rise in the figures. As regards serious crime, the police report indicates the conditions of the year. Except in certain districts the returns are swollen by increased cases of assault, hurt, mischief and trespass. Insufficient use is made of the power of summary dismissal in petty cases and much time is wasted over this class of work.

Classification of offences.

312. Much of the serious crime already commented upon is due to the falling-off in the number of women, which is so marked a feature of the recent census and for which plague is responsible. This appears to have led to a general decrease in morality and consequent strife. The criminal courts manifest an utter inability to deal with matrimonial cases, and out of 12,059 persons brought to trial for offences of this character, only 783 were convicted. The increasing absence of ceremony multiplies the difficulties of the courts, and legislation is required to protect, by registration or some tangible form, the contract of matrimony.

* "Hand-Book of the Criminal Tribes of the Punjab," by Mr. V. P. T. Vivian, Assistant Superintendent of Police, published at the Punjab Government Press, Lahore, 1912.

Local and Special Laws.

313. The special features in cases under Local and Special Laws were the cases under the Delhi Durbar Police Act, an increase in cases under the Canal Act, and the cases arising from the enforcement of the Cruelty to Animals Act on the Murree road.

Miscellaneous proceedings under the Criminal Procedure Code.

314. In spite of the increase in false complaints of a petty nature, little use is made of the power to order compensation to be paid to the accused. The use of the section of the Code and the procedure for prosecuting false witnesses are capable of improvement, and appellate courts might be empowered to award compensation, which too should be enforceable in false petitions for the accused to be bound over to keep the peace. There is little doubt that the provisions of this preventive section are often grossly abused by complainants, leading to the very crimes which the section is intended to prevent.

Results in criminal trials.

315. A change has been introduced this year in the method of recording the results in criminal trials, and it is claimed that the new method gives a clearer indication than before of the real success or failure in bringing criminals to justice. Under the new system the percentage is calculated of the number of convictions and cases compounded on the total of such cases *plus* the acquittals or discharges after judicial inquiry or trial. For the past year the percentage is 71. Incidentally the figures collected show how large a number of cases are compounded each year, amounting in 1911 to 35,027. The number of compounded cases varies inversely with the number of cases summarily dismissed.

Jirgas.

316. The Dera Gházi Khan and Miánwáli districts report favourably on the working of the jirga system. As regards the latter district, the Sessions Judge highly praises the qualifications of the assessors, attributed by him to the training they get in making their reports in cases sent to them as a jirga.

Witnesses.

317. Compared with the lavish way a private complainant or plantiff has to treat his witnesses, the daily allowances given to witnesses for the Crown are exceedingly meagre, and the scant courtesy that they receive may be some explanation of the failure of prosecutions by Government. Perjury is rampant in the courts, and the present law does much to discourage prosecutions for this offence. However, a campaign against perjury would probably bring the criminal administration to a standstill owing to the length of the proceedings involved.

Appeals.

318. The Jail Report discloses that a far higher percentage of prisoners in the Punjab are released on appeal than is the case in other provinces. This is not borne out in the statistics of the criminal administration which shows that the percentage of sentences of all kinds reversed in the Punjab is not higher than elsewhere. The percentage of appeals rejected is 58 and of revisions 71.

Chief Court.

319. The Chief Court rejected a higher percentage of revisions, but accepted a higher proportion of appeals, while the number of appeals decided fell from 1,071 to 999. Death sentences in a year in which murders were more numerous than in any year during the last decade, except 1903, were fewer than in any year of the decade, with the exception of 1907-08. In 442 cases returned as true the capital sentence was finally confirmed on only 69 persons.

21.—Prisons.

Institutions.

320. There has been no change during the year either in the status or number of jails. There are now in the province 3 central, 21 district (including the Lahore Female Jail) and 8 subsidiary institutions. Arrangements are in progress, however, to reduce the district jails at Rohtak, Jhang and Dera Gházi Khan to the lower status, and the Lahore District Jail on conversion into a Borstal institution will become a central jail. With these changes the policy of concentration, which has been pursued for some years, will be brought within sight of finality and a considerable gain in efficiency accomplished.

Admissions.

321. The number of convict admissions to jails was normal at 16,607. The districts of Lahore and Ferozepore exhibit an unenviable pre-eminence in this respect. In addition 830 were received on transfer from other

provinces, chiefly the North-West Frontier Province, and a further 37 were passed through the jails on transit. The number of undertrial prisoners admitted was 19,705 exclusive of 3,317 admitted to the judicial lock-ups (10 in number) existing apart from jails. But deducting prisoners transferred between jails and lock-ups the net admissions were 21,161. These figures are largely in excess of those of the previous year. In addition 466 civil prisoners were admitted to the jails and lock-ups, including 9 women. The daily average jail population was 12,450 distributed over 10,992 convicts, 1,412 undertrial, and 46 civil prisoners. The average is an advance by 58 on the high figure of the previous year. The population gradually reached its maximum in November, but the release of 1,710 convicts who received a full pardon on December 12th, in connection with the Coronation Durbar, caused a sudden drop.

Classification.

322. The ratios to the free population borne by the convicts admitted during the year are ·31 for Christians, ·96 for Muhammadans and ·69 for Hindus and Sikhs. According to terms it is reported that 13,293 were awarded less than 12 months' imprisonment, and of them 3,298 one month or less. Previously convicted prisoners admitted numbered 2,087, about 13 per cent. of the whole, a ratio which has remained more or less steady during the last decade. It is calculated that the real criminal element of the province amounts to about 1,300 habituals, of whom about 1,000 are distributed amongst the various prisons.

Under trials.

323. The average period of detention was 23 days. The percentage of acquittals was 55·6; in other words, every second person admitted to jail under trial was ultimately acquitted. This result, coupled with the fact that 29 per cent. of all releases were releases on appeal, is the subject of comment.

Discipline.

324. Seven escapes from jail are recorded, of which one alone was from inside jail. New guarding arrangements have recently been introduced, with the result that breaking jail has now been practically stopped. Four escapes occurred among undertrial prisoners from the insecure subsidiary jails at Gujrat and Amritsar. At the same time imposition of fetters as a means of securing prisoners has been discountenanced as useless, and was only resorted to in 128 cases during the year. Generally speaking, the number of offences and severity of punishments awarded are decreasing. The Inspector-General's influence is towards considerate and extra-humane treatment, but the conduct of prisoners is probably really improving. Only 19 prisoners were sent for trial under Act IX of 1894, and "formal warnings" decreased. The total number of jail offences, exclusive of the above, was 30,024, and in only 36 cases was whipping resorted to as a punishment.

Convict officers.

325. The average number of convict officers employed amounts to 11 per cent. of the prison population. The conduct of the convict officers again shows improvement, and no case of abuse of the trust placed in them was brought to light. The work of this class of convict was systematised during the year, but the difficulty of meeting the demand was intensified by the Coronation releases.

Remissions and rewards.

326. Increasing resort is being had to the remission system for the reward of good conduct and the encouragement of industry. The 15-day remission was given for no punishment during the year in 1,664 cases, and 1,000 more "special" awards were given than in 1910. Gratuities to the value of Rs. 446-15-0 were distributed, and the sum would be greater if remissions were not considered a more valuable gift than money.

Financial.

327. The total expenditure on guarding and maintenance was Rs. 9,36,942, or Rs. 76-0-6 per head on the daily average strength. The cost to the Punjab Government of guarding prisoners sentenced by courts of the North-West Frontier Province, who numbered 1,543 at the close of the year, was Rs. 89,301. The imposition of this charge on the Provincial budget is felt to be a hardship. The reorganisation and increase in numbers of warders and advanced rates of pay to them and to Assistant Jailors have increased the cost of establishment. On the other hand, the cash earnings of the jails

amounted to Rs. 2,23,378, or Rs. 18-2-6 per head, and, in spite of the increase in expenditure, the average net cost per head has fallen to Rs. 57-14-0. That concentration is highly economical is shown by the fact that in the Lahore and Montgomery Central Jails the average cost per prisoner was Rs. 32-15-0 and Rs. 35-2-0, respectively. The indirect profit from the employment of convict labour on jail work was Rs. 3,84,588.

Jail industries.

328. The daily average number of convicts sentenced to labour was 10,881, of whom 7,215 were actually available for labour : of this number 1,050 were constantly employed on jail buildings and 442 on canal excavation under extramural rules. The balance were employed on manufactures, either for the department or for profit. The principal profit-making industries are paper-making (profit Rs. 31,444), lithographic printing (Rs. 27,217), reed screen-making (Rs. 17,238), munj mat, cotton durrie and carpet-making (Rs. 36,216), and oil-pressing (Rs. 11,809). Some progress also has been made with tent-making. The earnings per head of those prisoners who were sentenced to labour amounted to Rs. 20-8-0, which constitutes a further record.

Buildings.

329. The jail accommodation was for 14,470 which is sufficient for the daily average population, but frequently insufficient for class distribution and for Central Jail purposes. Steps are being taken to remedy this last defect, especially by the removal of 500 prisoners from Montgomery jail to a separate camp for work on the Lower Bari Doab Canal. Over and above the amount expended on special and annual repairs some Rs. 3 lakhs were devoted to jail buildings, the greater part of which was spent on the conversion of the Lahore District Jail into a Borstal Central Jail.

Health.

330. The number of prisoners admitted to hospital was 7,764, the average daily sick being 401. The general health was lower than in the previous year. Some anxiety is felt over the spread of tubercle, and something approaching a panic occurred in the Montgomery Central Jail, where 144 cases were recorded. Much of the increase in this disease may be due to more careful examination of prisoners, but a specialist has made investigations and will report shortly. The death-rate was 26·42 per mille which, though lower than in the previous year, is not considered satisfactory. Exceedingly high death-rates occurred in the Lahore, Ambala and Delhi Jails.

Borstal Jail.

331. Preparations were actively advanced for the introduction of the Borstal system at Lahore. Juvenile adults, for whom the institution is designed, were employed on the building, and in the meantime classes for instruction were opened, education arranged for, and the staff organised. Arrangements have also been completed by which juvenile adults in the Borstal Jail will be permitted to spend the last 2--6 months of their term in the Danepur Settlement of the Salvation Army at Lahore. Here they will be able to earn money for the support of themselves and their families, and will be followed up with friendly and helpful influences after they have completed their sentences and returned to their homes.

Establishment.

332. The rise in the pay and status of the warder guard and jailor staff has had the best results. A better class of man is recruited in all branches of the service, and a better feeling has prevailed among the staff. The subordinate medical service of Sub-Assistant Surgeons is, however, unsatisfactory, and attempts are being made to render jail service less unpopular among this class. The title of Rai Sahib was conferred on Lala Ramditta Mal, Jailor.

22.—Civil Justice.

Institutions.

333. The total number of suits instituted was 182,182, about 8,000 less than in 1910. Whether this was due to the temporary action of good harvests, or to a partial failure of the kharif harvest in some districts, or to the action of the co-operative credit societies, or whether an era of general prosperity is setting in the Punjab which will place the debtor in a better position to pay his debts and so decrease the necessity for litigation, still remains to be seen. At any rate the decrease in institutions in the last two years

is a marked one, and it is to be hoped that the causes which have led to it are of a permanent character, and that the passing of the Civil Panchayats Act by checking litigation and helping in the disposal of petty suits may co-operate in a further much-to-be-desired decrease in civil litigation. The total value of suits instituted was Rs. 3,10,15,031, an average of Rs. 170. One suit of over Rs. one lakh in value was instituted in each of the districts of Delhi, Lahore, Kangra, Multan and Lyallpur.

Classification.

334. Under pre-emption suits the decline has been 1,336, the number now reported being 4,262. Judicial opinion is strongly in favour of abolishing the right of pre-emption with its unsatisfactory incidents. Matrimonial suits, though decreasing in numbers, continue to give trouble, and it is apparent that women are becoming alive to their rights under their personal law. The frequent absence of a tangible form of ceremony causes much difficulty, and a system of marriage registration is desirable. The benefit which may be anticipated from the Provincial Insolvency Act (III of 1907) is at present to a great extent nullified by the failure of many courts to understand its provisions. Much time is spent, perhaps to a large extent uselessly, on work connected with the Guardian and Wards Act, but it is hoped to effect an improvement in this respect under the proposed entertainment of District and Sessions Judges.

Disposals.

335. Disposals of original suits again fell, and now number 192,115 out of 218,656 for disposal. Original cases pending at the close of the year were 33,028, an increase of 2,373, though the numerical strength of the courts has been maintained. The appellate courts show better results, and here the pending file was reduced. The increasing tendency to issue commissions for the examination of witnesses is remarked. The local commissioner is often a person absolutely ignorant of the value of evidence, and it is not satisfactory to find that the courts are developing a tendency to divest themselves of their proper responsibility in this way.

Execution.

336. The amount realised in execution proceedings was Rs. 51 lakhs, the percentage for the province being 27. Some doubt is felt as to the accuracy of the figures, especially in respect of payments made out of court. It is generally held that ministerial establishments are underpaid, and that from the ill-paid agency a high standard of honesty is not to be expected. In the circumstances the amount of relief granted by the courts may be considered as satisfactory as could be expected.

Chief Court.

337. In the Chief Court the pending file has again risen, and the congestion of work in the Court has approached still nearer to that which necessitated the appointment of four extra Judges in 1905. The appointments of the 6th and 7th Judges have been continued for two and one years, respectively. Alterations in the law of appeal have relieved the Court of much petty appellate work as is shewn by the fact that the average number of civil appeals disposed of by each Judge has fallen from 426 for the seven years ending 1890 to 266 for the decade ending in 1900, and again to 172 in the following ten years.

General.

338. Receipts from process fees amounted to Rs. 5,09,196 and expenditure to Rs. 2,48,448. The fact that a profit of Rs. 2,60,748 is derived from this source provides an argument for raising the salaries of the establishment paid from process fees, while possibly the fees themselves might be enhanced without any difficulty. The delay in service of process is a frequent cause of the dilatoriness of subordinate courts, and the extension of the sub-divisional system in districts appears to add to the delay. As to the court itself, the position too frequently is that the case is heard piecemeal as documents are dragged out of a reluctant party, and processes are issued compelling the attendance of witnesses from remote parts. Neither the litigant nor his pleader prepares the case beforehand, and the latter, so far from being properly briefed, is often engaged a few minutes before the case is called before the court for settlement of issues. The court is faced with two alternatives: either to refuse to grant adjournments in order to enable negligent parties and perfunctory pleaders to produce documents, which should have been obtained before the

suit was filed, or else to attach the same value to time as do the parties themselves, and adjourn freely. In the first case the result is that the suit is decided upon an incomplete record, and in the second that there is no proper trial of the action.

23.—Registration.

General business.

339. The decrease in the number of compulsory registrations which began in 1910 has continued during the year under report. The total number is 67,672 as compared with 70,574 last year. The decrease is nearly all under the head "Mortgage," and the principal cause is probably the failure of the kharif harvest, which checked redemptions and re-mortgages for enhanced consideration, but other contributory causes are plague, the growth of co-operative credit and the rapidly increasing tendency to dispense with compulsory registration where a mutation has to be entered. This tendency may necessitate an early reconsideration of the decision arrived at in 1909 to leave the registration of deeds and the mutation of rights in the record-of-rights on their present footing. The number of optional registrations continues to decline, and the decrease, which is all under registrations affecting immovable property, is due to the growing confidence in mutation proceedings. An enormous increase in the value of instruments of lease was occasioned by the high prices obtained in Delhi for houses leased for the Coronation Durbar. Awards also show an increased value of Rs. 5 lakhs due to large awards in the Delhi and Amritsar districts.

Land Alienation Act.

340. Instruments which contravene the Land Alienation Act continue to engage, and in some cases to evade, the vigilance of registering officers. These frequently take the shape of "*benami*" transactions, but the most difficult to detect are mortgages purporting to be in the form permitted by section 6 (1) (*a*) of the Act which by implication however do not permit redemption within the fixed period and so contravene section 7 (3).

Income and expenditure.

341. Income from registration fees has fallen by Rs. 9,472 to Rs. 2,58,045 owing to the decrease in the number of registrations. The total receipts from other sources have risen by Rs. 2,872 to Rs. 34,418 : so the total income is Rs. 2,92,463 and the total decrease in income is only Rs. 6,600. The total expenditure appears as having fallen by Rs. 3,692 to Rs. 1,35,166, but this result is due to a decrease of Rs. 5,773 in the estimated cost of the office of the Inspector-General of Registration, who is no longer Registrar of Joint Stock Companies. There has really been an increase of expenditure amounting to about Rs. 2,084, which falls under the head of permanent establishment. This increase was occasioned by the increase to Rs. 15 per mensem of the pay of muharrirs formerly drawing Rs. 10 or Rs. 12 only.

23 A.—Legal Affairs of Government.

Opinion work.

342. The references for opinion disposed of by the Legal Remembrancer amounted to 856. The Irrigation Branch of the Public Works Department was responsible for 338 of these and Government for 198. In all sixteen different departments sought the advice of the Legal Remembrancer during the year. The increasing complexities of the administration involve more frequent recourse to legal advice, and the cases referred were largely in excess of the previous year's figures.

Civil business.

343. During 1911 the Government was plaintiff in 36 original civil and revenue actions, instituted 25 appeals and defended 185 original cases and 48 appeals. The majority of cases defended by Government were references under the Land Acquisition Act, mainly in cases of acquisition by the North-Western Railway. In the majority of these cases the Collectors' awards could not be upheld, and in round figures they were raised from Rs. 3 lakhs to Rs. 4¾ lakhs. A total enhancement of Rs. 1,40,000 was ordered on account of land acquired for the railway near Lahore and Shahdara, where the Land Acquisition Officer's awards were undeniably too low.

Criminal business.

344. In the Chief Court the Government Advocate prosecuted in one original trial and obtained a conviction. In the appeals of 501 persons which were dealt with by the law officers 75·6 per cent. were decided in favour of the Crown. In 79 revision applications and 23 miscellaneous the percentage of success was 78·4 and 95·6, respectively. In 112 murder references in which capital sentence had been passed, confirmation of the extreme penalty was obtained in 58 cases only.

In subordinate courts the Assistant Legal Remembrancer was deputed to prosecute in 3 original cases and in 13 appeals, successfully in 2 and 10 cases, respectively.

24.—District and Local Boards.

Elections.

345. The usual indifference has been shown in the elections for the various district boards. Opinions were recently invited on the question of extending the elective system in those boards where all, or the majority of, the members are appointed; but the replies of the local officers shew that the time is not yet ripe for an advance in this direction. So long as the leading men prefer nomination to election, the substitution of the latter for the former method of appointment would lower the status of the boards and make them less representative than they are at present of the true public opinion of the rate-payers. It remains to be seen whether the extension to district boards of the franchise for the Provincial Legislative Council will engender sufficient competition to induce the leading land-holders to submit to election for seats on the boards. For the present it is necessary to retain a large nominated element in this new electorate to the Legislative Council.

Meetings.

346. The number of meetings held has been sufficient in most cases, but the Kángra board failed to hold the requisite number, and in Delhi, Lyallpur and Shahpur only 5 meetings were convened. The average attendance has improved in almost all districts. This does not appear to be due entirely to a greater desire on the part of members to attend to their public duties. One reason attributed is the grant of travelling allowance to members, and the holding of occasional meetings elsewhere than at district head-quarters has been popular in various cases.

In Muzaffargarh the local boards failed to meet at all. As these boards have been found to serve no useful purpose proposals for their abolition are under consideration.

Working of the boards.

347. The working of the district boards throughout the year has been satisfactory. On the whole it would appear that, though more interest is being taken by members in their work and that free discussion is slowly beginning to supersede apathetic concurrence, yet it is in only few districts that members are prepared to go beyond mere discussion and to give any real practical assistance. The custom, however, of entrusting petty work to members in their own circles is extending with generally satisfactory results. As the Deputy Commissioner of Montgomery remarks "the practice of freely admitting to the agenda projects whose utility is doubtful promotes healthy discussion. Nothing is more paralysing than the feeling that every project on the agenda must inevitably be passed."

Devolution of work.

348. The system of delegating powers to sub-committees and members is being extended with good results. Finance sub-committees exist everywhere. As a general rule, they confine themselves to one meeting for the preparation of the annual budget, but their duties are wider in some districts. Tahsil sub-committees are also becoming popular, and have been formed lately in Multán and Hissar. There is a growing tendency also for boards to take up general questions dealing with the prosperity of the district. In Rohtak samples of agricultural machinery were bought for demonstration. In Delhi, Montgomery and Ambála sub-committees were constituted to inquire into the question of improving the breed of cattle. In the north of the province, however, devolution of district board work has not been successful.

Education.

349. The scale of teachers' salaries has been revised and improved in almost every district. Training schools for teachers have been started in Gujránwála, Lahore and Hissar. With the improved prospects and regular training a better stamp of men will be forthcoming as teachers in primary schools. In Lyallpur 25 new schools were built during the year, but this was not sufficient to meet the demand, and in Jullundur and Siálkot numbers of children had to be refused admission.

Medical.

350. New dispensaries have been opened at Chabbal (Amritsar), Pattoki (Lahore), Dunera (Gurdáspur), Naráingarh (Ambála), and a new eye ward was constructed at Moga (Ferozepore). Twenty-eight Plague Officers are provided with camp hospital equipment, and give medical relief while in camp. In Gurdáspur an itinerant Sub-Assistant Surgeon has been engaged for the medical inspection of schools, whilst in Hissar an itinerating dispensary for general use has been sanctioned.

Veterinary.

351. Veterinary hospitals are everywhere increasing in popularity. Nine have been constructed during the year and two more are in progress. Increased attention is being paid to cattle and horse breeding.

Arboriculture.

352. Satisfactory attention is being paid to arboriculture, and definite programmes for planting have now been laid down. The difficulty of obtaining an adequate supply of canal water is one of the chief obstacles to success, but there is also a general need for greater care of the young trees. Probably more expert supervision is required. In Hoshiárpur a retired Forest Ranger is employed, and other district boards might imitate this example. In Gurdáspur and Gujránwála an attempt is being made to combine arboriculture and sericulture by planting mulberry trees. The mulberry as a roadside tree has disadvantages, and the success of the experiment is doubtful. In many districts much damage was done to the avenues by throwing them open to lopping in the summer of 1911. In many cases this was done without due supervision, and the avenue trees were apparently largely lopped for goats and camels, while zamindars' trees remained unlopped. Greater care will be necessary should it become advisable to resort to this very destructive measure of relief.

Village sanitation.

353. Efforts are now being made in several districts to tackle the long neglected problem of village sanitation. In both Karnál and Montgomery schemes have been framed for providing conservancy staff in some of the larger villages, the cost being met partly from the funds of the board and partly by the imposition of a small tax on the village. This system is reported to be working well, especially in Montgomery. Great caution is, however, desirable in making such experiments, and special village taxes should not be imposed unless it is certain that the villagers do not object to them. Compelling village communities to pay for sweepers, whose services they do not desire or appreciate, is not really consonant with the spirit of local self-government. Great reforms are undoubtedly desirable in the sanitation of rural areas, but it is inexpedient to force them in advance of public opinion. The habits of centuries are not easily changed, and the reformer's first task is to convert the people. The villager must be convinced that filth produces and fosters disease before he can be induced to observe the rudimentary principles of sanitation.

Special activities.

354. The Lyallpur district board has assumed control of two movements of social reform, namely, the Sikh Temperance Association and two societies for the restriction of expenditure on social ceremonies. The members of the board for the time being form the standing committee for each society, with power to add to their number. It is a hopeful sign that the members of the district board of this young and progressive district should associate themselves with philanthropic movements, outside the ordinary routine of the board's duties. This board has also assumed control of the fund of the local King Edward Memorial, and has been able to make good use of the money in works of medical aid.

Future devolution.

355. The utility of local or sub-district boards has been considered during the year in connection with a scheme of devolution framed by the Royal Commission on Decentralization. District officers were practically unanimous in thinking that the old local boards were generally a failure in the Punjab and should not be revived. The financial dependence of these boards on the district board made it impossible for them to exercise any real function of local self-government. Owing to the small average size of districts in this province, the district board is probably the smallest unit that can usefully be constituted with independent financial powers, and the proper line of devolution is in the formation of local sub-committees and not of separate sub-district boards. For instance, in sub-divisions the officer in charge and other members of the board in the sub-division might form a sub-committee to consider local needs and supervise all district board works within the sub-division.

25.—Municipal Administration.

General.

356. The most important feature of the year under review is the introduction of the new Punjab Municipal Act, which came into force on 1st October 1911. It has remedied certain defects in the old Act, and has extended the powers of municipal committees in various useful directions. The question of the reduction of the smaller notified areas has been further considered, with the result that in the Rohtak district 8 notified areas have been removed from the operation of the Municipal Act. In Gurdáspur also similar proposals have been formulated. In the rest of the province district officers have generally reported that the inhabitants of small towns have shown no marked desire for the abolition of municipal institutions. New notified areas were established in the colony towns of Jaranwála (Lyallpur) and Phularwán (Shahpur) and in the new Dera Gházi Khan. The notified area of Gojra (Lyallpur) was converted into a municipality.

There are now 107 municipalities and 104 notified areas in existence. The population within the limits of the former is 1,878,417 and of the latter 373,016. In 74 towns the committee is appointed partly by election and partly by nomination, in 32 by nomination only, while in Kasumpti (Simla) the Deputy Commissioner administers the funds. In notified areas there are no elected members of the committees. The total number of members is in municipalities 1,224 and in notified areas 489.

Elections.

357. The reports on municipal elections disclose a general apathy and indifference on the part of the public, except where party or sectarian feeling runs high. Probably, however, seats are contested privately to a greater extent than appears from the reports, the unsuccessful candidates withdrawing when they find that their canvass does not lead them to expect a majority. In Lahore and Amritsar there were keen struggles for election. In Lahore the contests were under the new election rules, which are reported to have worked satisfactorily on the whole. It is, however, somewhat doubtful whether they provide sufficient safeguards against the admission of fictitious or unqualified voters, especially if departures from the rules requiring personal registration are permitted without adequate precaution. In Wazírabad, where sectional representation is in force, there were 11 candidates for one seat, and polling is said to have been very keen. The sectional system of representation introduced at Fázilka hardly appears to have had the desired result. The city was divided into wards, the object being to secure adequate representation of the Muhammadan minority. No member of that community has, however, been elected, although one of the wards contains a large Muhammadan majority. As a result of the apathy of voters in Murree and the unsatisfactory working of the committee, the constitution of that committee was changed, the number of *ex-officio* members being increased from 4 to 7, while 7 nominated and 2 elected members replace 8 elected members.

Meetings.

358. The number of meetings held in most municipalities and the average attendance are generally satisfactory. In Delhi there were 60 meetings, in Lahore and Amritsar 23 each, while the Simla committee held 52. Most of the minor municipalities held the prescribed number of meetings, though there were some notable exceptions, of which Chiniot (Jhang) and the notified area of Ramdás (Amritsar) are conspicuous. The change in the constitution of the Murree committee has not apparently induced the members to take much interest in municipal administration. The average attendance is only 49 per cent.

Appointment of non-official Presidents.

359. The proposal that non-official Presidents should replace officials in the majority of the smaller municipalities has been referred to Commissioners and Deputy Commissioners, but the enquiry has not brought to light any general desire on the part of the people to be freed from official guidance. Some officers have expressed the opinion that local self-government would collapse without such guidance, and that the more primitive the local body the greater is the necessity for official control. It appears that, for the present at any rate, efficiency is not compatible with unguided local self-government in small municipalities and notified areas, and that the abolition of the official President would lead to a falling off in efficiency. Where, however, the President is an absentee, some inefficiency is inevitable, and it is probable that it would not be seriously increased in all cases by the appointment of a local non-official President. Commissioners having accordingly been instructed to examine and report on all cases where the President is a non-resident official.

Working of committees,

360. The working of committees is reported to be satisfactory generally, and sub-committees continue to do good work in most municipalities, the Delhi sub-committees being especially noticeable with 88 meetings. The good work of the Vice-Presidents of the Ambála committee—Lala Ganga Ram and M. Ali Muhammad—is again brought to notice. On the other hand, the Khanna (Ludhiána) municipality is reported to have long been notoriously inefficient. Lyallpur has been unfortunate in suffering from the defalcation of two successive treasurers, and the accounts of the Khusháb (Shahpur) committee are in confusion.

Sectarian feelings and personal enmity are reported to have caused trouble in Hánsi and Bhiwáni (Hissar), Rohtak and Gohána (Rohtak), and in Gujrát and Jalálpur Jattán (Gujrát), but it is satisfactory to find that these developments have been less noticeable than usual in municipal affairs. No important over-rulings of resolutions are reported though in a few cases committees have been asked to reconsider their decisions. An attempt has been made in Dalhousie to secure greater continuity of administration by enlarging the limits of the sub-division and appointing a Sub-Divisional Officer for two years, and perhaps something of the kind may be successful in Murree, where for some time past municipal administration has not been very satisfactory.

Bye-laws and rules.

361. The important sanitary question of the regulation and supervision of stables and cow-houses has been attended to in Lyallpur and Murree, where bye-laws have been framed for that purpose. Lahore and Rawalpindi have passed new bye-laws for dealing with hackney carriages, and Murree has made rules relating to motor-cars and the storage of petroleum. The extension of the Vaccination Act to the Ferozepore district has led to new bye-laws in Fázilka, Muktsar and Dharmkot. In a few of the larger municipalities an important amendment to the rule of the Municipal Account Code has been introduced, which lays down that in dealing with claims for the refund of octroi no proof whatever of the payment of the tax shall be demanded. As the Postal Department is unwilling to assist municipal committees in assessing and recovering octroi on articles imported by post, unscrupulous traders are enabled to evade octroi by means of the parcels post and to obtain refunds of a tax which they have not paid. Government has therefore sanctioned a relaxation of the Code rule, and authorized certain com-

mittees to demand proof of previous payment of octroi in the case of a few specified articles which, owing to their light weight and high value, offer special facilities for this form of fraud.

TAXATION.

General.

362. Octroi is in force in 102 municipalities, and continues to be the chief source of municipal revenue. In 14 towns there is a tax on animals and vehicles, in 10 on houses and lands, in 4 on servants, in 2 on roads and ferries and in 1 on shops and stalls at annual fairs. Six towns impose a water-rate and 4 a conservancy tax, but there is no lighting rate in any town nor tax on professions and trades. Octroi is the least unpopular form of taxation in the Punjab, but there is difficulty in obtaining sufficient income from octroi in small towns, especially where agricultural land is included within octroi limits. The obvious gain to the owners of the land furnishes a strong motive to a small committee to abstain from remedying a condition so detrimental to octroi income. House taxes continue to call forth bitter complaints from those who are compelled to pay them, but the unpopularity of this tax may possibly be mitigated if greater effort is made to assess it in a less arbitrary manner. An experiment is being made in a notified area in the Siálkot district. Here area will be made the basis of the tax, but the locality and quality of the building and the class of the residents will also be taken into account. The result will be watched with interest. Doubts have arisen as to the legality of some of the taxes in force in many notified areas, and towards the end of the year instructions were issued for the revision of these taxes where necessary.

New taxes.

363. New taxes were imposed in Batála where a frontage tax was imposed on houses within municipal but outside octroi limits; and in Siálkot where a wheel tax and a toll on vehicles entering the municipality has been enforced. Difficulties are experienced in the collection of the wheel tax. The conservancy tax, introduced last year at Simla, brought in about Rs. 4,500 less than was expected, and it is estimated that some 2,000 to 3,000 persons entering and even residing in municipal limits evade payment. This tax has replaced the old servants' tax, which in 1910-11 brought in a revenue of Rs. 21,754. The conservancy tax has only produced an increase of Rs. 13,855, and apparently the cost of the special staff employed to collect it amounts to 30 per cent. on this increase. This result can hardly be regarded as satisfactory from a financial point of view, though the greater control obtained over the floating population of Simla may compensate for this by greater efficiency in sanitation and administration.

Octroi schedules have been revised in Gurdáspur, Gujránwála, Montgomery, Kamália (Montgomery), Ferozepore, Ráhon (Jullundur), Kharar (Ambála) and the municipalities of Shahpur district.

Octroi.

364. The working of octroi has generally been satisfactory, but there are some marked exceptions and embezzlements were brought to light in Siálkot and Ráwalpindi, the former resulting in the trial of a member of the committee and his son and a wealthy trader and contractor of the town. The trials were not completed by the end of the year under report. Receipts from the tax have risen in Lahore by 7·5 per cent., in Amritsar by 3·80 per cent., and in Delhi by 19·30 per cent. Most municipalities record an increase, and decreases have been satisfactorily accounted for. The cost of collection is not unreasonably high except in small towns.

Refunds.

365. Several minor municipalities continue to disregard the necessity of granting refunds. In Dharmkot (Ferozepore) none have been given, it being explained that funds do not permit; whereas the balance at the credit of the committee is in excess of the prescribed minimum and the cost of collection is unduly high. Jagádhri has also gone through the year without granting any refunds, the reason in this case being that, by mutual agreement between the committee and the local traders, no one applies for a refund. The percentages of refunds varied considerably through the province. In Khanna (Ludhiána) it is as low as 2·8 per cent. on the gross receipts, while

at Ballabgarh (Delhi) it is 46·3. The percentage is high in other towns indicating either that through trade is being taxed or that the arrangements for granting refunds are lax and require better supervision.

Health.

366. The year was generally a healthy one, but plague and small-pox were prevalent, the former being the cause of high mortality in the towns of the Delhi division.

Improvements.

367. In Lahore eleven additional supply wells are being sunk, and a large sewage scheme is under consideration. Streets are being widened and proposals for providing an up-to-date and properly equipped fire brigade and for the construction of a tuberculin dispensary occupy the committee's attention. In Amritsar the experiments in the sinking of tube wells have been highly satisfactory, and it is found that one of these sunk in one of the old wells of the water-works more than quadruples the supply and provides a means of dealing with the failing water-supply. The scheme for reclaiming the swamps (*dhábs*) is progressing successfully and a detailed scheme of up-to-date under-ground drainage of an area of 61 acres is being prepared. In Delhi the most important work was the extension of the water-works which was efficiently carried out in time for the Coronation Durbar. Improved water-supply schemes are being worked out for Siálkot, Khusháb (Shahpur) and other towns.

26.—Military (Volunteering).

The Punjab Light Horse.

368. The Punjab Light Horse consists of six troops, of which one is formed of reservists, and a detachment at Delhi. The enrolled strength on March 31st, 1912, was 417, composed of 29 Officers, 44 Non-Commissioned Officers, and 344 troopers: the total number of efficients being 387.

The 1st Punjab Volunteer Rifles.

369. The 1st Punjab Volunteer Rifles consists of $13\frac{1}{2}$ companies, including a reserve company and $2\frac{1}{2}$ cadet companies. There is also an additional school section at Murree. Three and a half companies are at Lahore, two at Murree and the others at Ráwalpindi, Amritsar, Delhi, Pesháwar, Ferozepore, Srínagar and Siálkot. The enrolled strength on March 31st, 1912, consisted of 56 Officers, 104 Non-Commissioned Officers, and 976 privates: 1,136 in all, of whom 1,066 were efficients.

The Simla Volunteer Rifles.

370. The 2nd Punjab (Simla) Volunteer Rifles has an establishment of 9 companies, including 2 cadet companies, and a reserve company; 2 companies, one of cadets, being at Sanáwar, near Kasauli. The enrolled strength on March 31st, 1912, was 48 Officers, 75 Non-Commissioned Officers, and 568 privates: 652 out of the total of 691 being efficients.

The North-Western Railway Volunteer Rifles.

371. The North-Western Railway Volunteer Rifles has 14 companies, including the reserve company; 6 of these, however, are stationed outside the Punjab. Four companies are at Lahore, 2 at Karáchi and the rest at Multán, Ambála, Saháranpur, Kotri, Quetta, Ráwalpindi and Sukkur. The enrolled strength on March 31st, 1912, was 52 Officers, 121 Non-Commissioned Officers and 1,432 privates: 1,605 in all, of whom 1,571 were returned as efficients. It is intended to divide this corps into two battalions shortly.

Inspection.

372. The Punjab Light Horse, the 1st Punjab Volunteer Rifles and the North-Western Railway Volunteer Rifles were inspected in February 1911. The 2nd Punjab (Simla) Volunteer Rifles were inspected in October 1911. The results were considered satisfactory.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Agriculture.—(1) Report on the operations of the Department of Agriculture, Punjab, for the year ending June 30th, 1912.

(2) Annual Report of the Punjab Veterinary College and of the Civil Veterinary Department, Punjab, for the year 1911-12.

(3) Annual Report of the Government Cattle Farm at Hissar for the year 1911-12.

(4) Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1911.

(5) Report on the working of Co-operative Credit Societies for the year ending 31st March 1912.

Weather and Crops.—(1) Report on the weather of the Punjab for the year 1911-12.

(2) Punjab Season and Crops Report for 1911-12.

Horticulture.—Report on the Government Agri-Horticultural Gardens, Lahore, for the year ending 31st March 1912.

Forests.—(1) Progress Report of Forest Administration in the Punjab for 1911-12.

(2) Report on the Administration and Accounts of the District Boards in the Punjab for the year 1911-12.

No special report on arboriculture was issued during the year.

Manufactures.—Report on the working of the Factories Act in the Punjab during the year 1911.

Trade.—(1) Report on the Internal Trade of the Punjab by Rail and River for the year ending March 31st, 1912.

(2) Report on the External Land Trade of the Punjab for the year 1911-12.

(3) Report on the Joint-Stock Companies in the Punjab for the year 1911-12.

Public Works.—Administration Report of the Public Works Department, Punjab, Buildings and Roads Branch, for the year 1911-12.

Irrigation.—(1) Administration Report of the Public Works Department, Punjab, Irrigation Branch, for the year 1911-12.

(2) Revenue Report of the Irrigation Department, Punjab, for the triennial period 1908-09 to 1910-11.

(3) Land Revenue Report as above.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agriculture.—(1) Statistics of British India, Part II, Commercial (Co-operative Credit Societies).

(2) Administration Report of the Army Remount Department in India.

Crops.—(1) Agricultural Statistics of India, volume I, tables 2-I and 3-I.

(2) Area and yield of certain principal crops in India.

(3) Prices and Wages in India.

(4) Variations in Indian Price Levels, 1912.

Forests.—Statistics of British India, Part IV (*b*), Finance and Revenue.

Mines and Quarries.—
(1) Statistics of British India, Part I, Industrial.
(2) Records of the Geological Survey of India, volume XLII, Part III.
(3) Report of the Chief Inspector of Mines in India under the Indian Mines Act (VIII of 1901) for the year ending 31st December 1911.

Manufactures.—Statistics of British India, Part I, Industrial.

Trade.—(1) Accounts of the Trade carried by Rail and River in India.

(2) Statistics of British India, Part II, Commercial (Joint-Stock Companies).

Railways.—Administration Report on Railways in India for the calendar year 1911.

Irrigation.—Statistics of British India, Part III, Commercial Services.

27.—Agriculture.

Scientific.

Research and experiment.

373. Research and experiment now cover a wide field and, in spite of unfavourable conditions, much useful work has been done at the Lyallpur and Gurdaspur Stations. The principal investigations concern the most valuable crops,—wheat, cotton and sugarcane. The survey of the various wheats in the province continues. Milling and baking tests have been arranged with interesting results, and an attempt to ascertain the home market value of selected red wheat was made, which, if persisted in, may give valuable information. The reports on American cotton are encouraging, and there can be no doubt that, with a favourable season, good results should be attained. The completion of Mr. Barnes' analysis of the Gurdaspur sugarcane will be looked for with interest. It is open to doubt whether the problem of safeguarding cotton from bollworm and sugarcane from moth borer has been tackled with sufficient energy. No question is of more importance than the protection of these valuable crops from insect pests, and hopes are entertained that it will not be long before more definite results are arrived at. The unusual demand for Indian barley in Europe has stimulated interest in this crop which, though not widely grown, is of prime importance in certain tracts of the south-eastern districts. Satisfactory progress has been made in the improved cultivation of date-palms. The attempt to introduce Arabian dates is meeting with unexpected success as the imported trees are fruiting already.

Sanction has been given to the experiment for reclaiming kallar soil, which the Agricultural Chemist, Mr. Barnes, has proposed after five years' investigation into alkaline soils. Some 85 acres of the worst affected land will be taken up in the Lyallpur Colony. A number of mole drains, 200 yards long, will be ploughed across it at intervals of 8 yards, opening into a central drain. The land will then be flooded heavily enough to wash out the salts, and the alkaline water will be carried off into a shallow tank at the end of the open drain. It is hoped to start the experiment next cold weather, if the necessary plant arrives from England in time.

Pests.

374. Bollworm (*Barias insulana*) appeared in the cotton of the Delhi division, of the Lyallpur district, and of the Jhelum Colony, in great numbers, and in other districts less formidably in the end of July and beginning of August. Bollworm parasites were obtainable nowhere in India. Accordingly at first the only thing to be done was to advise the cultivators to pick off and burn or bury all infected bolls and buds. Parasite boxes were sent out to be filled with bollworm-affected cotton in the hope that the parasites might appear in the boxes and escape into the fields and breed. What saved the situation, however, was undoubtedly the heavy winds and rain which visited the province in the last few days of August. These apparently swept and washed the plants clean of infected bolls, eggs, and pupæ and drowned them upon the ground. Parasites were not found till September 6th, although consignments of infected bolls were being sent in regularly from many districts to Lyallpur for examination. Where bollworm was prevalent the first two pickings were entirely lost, with the result that the first cotton came to the mills very late. American cotton in the Lyallpur district suffered much less than country cotton because the outbreak of the disease occurred during the flowering season, and the flowering period of American cotton is longer. The cotton plants flowered and fruited most abundantly in the end of the season to make up for lost time, but frost prevented ripening in some districts.

The damage done to sugarcane by the moth borer is serious. Maize and jowar were sown as trap crops and the expediency of cutting the dead hearts of the young cane was also tried. These methods appear likely to give good results, but the experiments are not yet complete.

Demonstrations.

375. Owing to want of staff, demonstration work was restricted during the year. At Lyallpur classes for instruction in the use of the reaper were held in April. Demonstrations of implements were carried out in Gujránwála,

Gurdáspur, Jullundur, Hoshiárpur and Ambála. At the close of the year under report steps were taken towards renting a plot of typical barani wheat growing land in the Attock district with a view to demonstrating on the spot the improved methods of cultivating barani wheat, which gave such striking results on the Gurdáspur farm last season. This farm will be in charge of an agricultural assistant, who, in addition to supervising work on the farm, will be available for conducting demonstrations in neighbouring tracts. The Director has introduced in 11 districts his scheme for bringing District Officers and the cultivator into close relations with the work of the Department by means of agricultural associations. While admitting the value of agricultural associations presided over by Deputy Commissioners, the Financial Commissioner considers that the future both of the Agricultural Department and of the co-operative societies lies in their mutual interdependence. This is a principle which formed the subject of a resolution at the last Pusa Conference. It is satisfactory, therefore, to note from the Deputy Director's report that with an increased staff of agricultural assistants organised demonstrations are now to be conducted in villages where co-operative societies exist.

376. Progress has been made in the production and distribution of labour-saving machinery and in well boring. One of the main functions of the agricultural associations mentioned in the preceding paragraph will be to familiarize the Punjab cultivator with the use and advantages of the improved types of tillage implements. On the whole the progress made with well boring has been satisfactory, and if one or two sets of deep boring and rock cutting plant are purchased, the coming year should show still better results. The most unsatisfactory feature of the year's work is the large number of days during which the borers remained idle for want of work or for want of labour. Out of a total number of 5,055 days, only 1,230 were spent in boring, while 1,225 days were wasted for want of work and 873 days for want of labour. The efficient management of well boring operations and the development of irrigation by tube wells and oil engines, however, can never be properly carried out until a properly qualified agricultural engineer is appointed. **Agricultural engineering.**

377. A valuable contribution to the stock of agricultural knowledge has been provided by Sir James Douie in his Monograph on Fodder Crops of the Punjab published in the early part of 1912. It is pointed out that some 14½ millions of horned cattle depend for natural grazing on 18 million acres of waste, much of it of poor quality, which they have to share with 4½ million sheep and 4½ million goats. A very large acreage has accordingly to be devoted to raising fodder crops for cattle. **Fodder crops.**

378. An officer was on special duty during the year in connection with pisciculture. After studying the methods employed in America and Madras he returned to the Punjab in December. **Pisciculture.**

For the conservation of indigenous species the directions in which it is proposed to take action are threefold. First the provision of adequate ladders at all weirs on the main rivers, which obstruct the free movement of migratory species; secondly, the protection of the spawning grounds; and, thirdly, the prevention of the wholesale destruction of fry and immature fish in the canals during closures. There are probably few countries in the world which can compare with the Punjab with its thousands of miles of harnessed rivers as a field for rough-and-ready methods of pisciculture, and the indigenous species are mostly so hardy and so prolific that with reasonable protection through the egg and larval stages they cannot fail to increase and multiply.

Brown trout have been introduced into the Beas in Kulu, certain tributaries of the Beas in Kángra, into the Giri and various other hill streams. The species thrives well in Kulu and Kángra, and makes very rapid growth, as yearlings of ¾lb. weight and four year old fish of four pounds and over have been caught. The Kulu stock ponds have been enlarged and improved. With the properly constructed hatching troughs, which are being made, and with the aid of a trained hand from Kashmir, it is hoped to show good results next winter.

Sericulture.

379. No progress has been made in the methods of rearing silk worms. Country seed is hatched in enormous quantities, much increasing the risk of disease. Measures are being taken to stop the rearing of this seed. It is hoped to extend rearings to Kángra and Siálkot in the near future, in places where hereditary insanitary practices do not delay progress.

Loans to Agriculturists.

Advances made.

380. Rupees 1,45,262 were advanced under the Land Improvement Loans Act (XIX of 1883), chiefly in Multán, Attock, Montgomery, Gurgaon and Muzaffargarh for sinking wells and in Attock and Gurgaon for the construction of embankments also. No advances were made in Delhi, Karnál, Hoshiárpur, Lyallpur or Jhang. Under the Agriculturists' Loans Act (XII of 1884), Rs. 1,89,466 were advanced mainly in Siálkot, Miánwáli, Muzaffargarh, Montgomery and Dera Gházi Khan. No advances were made in Hissar, Rohtak, Delhi, Hoshiárpur, Jullundur, Lyallpur or Jhang. Large advances were made in Siálkot owing to the loss of cattle through disease, and to the failure of the kharif crop of 1911, to meet which timely advances for fodder were arranged. Advances under the Loans Acts were naturally small in a year unmarked by special calamities. The total amount outstanding under both Acts is only Rs. 17 lakhs, which is less than the amount advanced in the one year 1907-08. The interest due was recovered without difficulty.

The profit to the Provincial Government representing the difference between the rate of interest ($3\frac{1}{2}$ per cent.) charged on mean outstandings by the Government of India to the Punjab Government and the rate of interest charged by the Punjab Government to the agriculturist borrowers ($6\frac{1}{4}$ per cent.) was Rs. 31,686.

Co-operative Societies.

General.

381. Progress has been well maintained during the year in spite of an obstacle, afterwards removed, imposed by a decision that unions of societies could not be registered under Act X of 1904. At the close of the year there were 12 Central Banks, 14 Unions, 26 urban societies and 1,721 rural societies. During the year the new Act (II of 1912) was substituted for the previous Act regulating the control of these societies.

Central Banks and Unions.

382. Four new Central Banks and 13 Unions were registered in 1911-12. Between them these 26 institutions lent out to the smaller societies over Rs. 11 lakhs during the year. The most interesting feature in connection with Central Banks and Unions is the fact that they have come into touch with the commercial world by obtaining, so far in 8 cases, cash credits with the Bank of Bengal to the amount of Rs. 3 lakhs, of which Rs. $1\frac{1}{2}$ lakhs have been drawn. As regards the relative value of a Central Bank and a Union, the former is usually of more use for the supply of money during the first year of co-operative work in a district; later on, Unions are more valuable as organisations, inasmuch as they are purely co-operative and more sympathetic in character. Experience shows that there is no reason why both should not exist together harmoniously in the same district. Whether one or the other or both should be started depends on the circumstances of each district.

Urban societies.

383. This year an organized effort has been made to extend to artisans, and especially to weavers, the advantages of co-operative methods. Fourteen more societies of this class have been registered during the year and 11 others started which have not yet been registered. The difficulties to be faced, especially in the case of weavers, are much greater than in the case of agriculturists' societies, inasmuch as the weaver is much more down-trodden and consequently more suspicious and less enterprising. The policy adopted has been not to form too many societies, but to make successes of those which have been started.

A credit society has been registered in the 10th Lancer Regiment at Jullundur and a second, not registered till later, in the 7th Hariana Lancers

at Ferozepore. The 10th Lancers' society already has funds amounting to Rs. 12,000. This extension of the movement to the Native Army will be watched with interest.

Rural societies.

384. The great majority of the co-operative societies of the Province, 98 per cent., are still composed of agriculturists: almost entirely confined to the central and west central districts, though a notable advance has been made in Ambála. The number of new societies registered amounts to 647. Objections have been made to the form of society in vogue on the grounds that it contemplates some division of profits, and that in time shares become withdrawable. The prospect of personal profit has, however, been an attractive feature of the banks, and there is little expectation that shares will be withdrawn when the time comes. The possibility of withdrawal has, moreover, brought members to regard their share payments as willing loans rather than as forced contributions. The working capital of the rural societies is now shown to be nearly Rs. 56½ lakhs. The real funds in use, after deducting the amount which appears twice in the form of "loans from other societies," by the rural societies is just under Rs. 50 lakhs. Of this sum the members' shares amount to 29 per cent., their deposits to 21 per cent. and the profit received by them to 6 per cent. That is to say, the contributions by members amount to a total of 56 per cent. of the working capital. But the village societies have also invested and deposited a considerable amount in the Central Banks and Unions, which again is lent out to the village societies and forms part of their funds. So that the total amount contributed by the members of the village societies themselves is not less than 65 per cent. of the whole, leaving only 35 per cent. contributed by people who are not members of any society. Of this 35 per cent., one-half consists of deposits in the village societies, that is to say, money which they have attracted by the credit which they now enjoy. Government loans form only 1½ per cent. of the whole. No one who considers these figures at all carefully can any longer say that the co-operative movement in the Punjab is an artificial creation or regard the future of the movement otherwise than with confidence.

Inspecting staff.

385. The success of the co-operative movement at the present time depends more than anything else on the character of the inspecting staff. The Government paid staff was increased by two Sub-Inspectors during the year, and now consists, in addition to the Registrar, of 8 Inspectors and 8 Sub-Inspectors. The societies themselves are steadily increasing their contribution towards the cost of the movement, and there are now six Sub-Inspectors paid for directly or indirectly by the societies. Another has been secured as the result of a private donation. In addition 24 co-operators are working as Honorary Sub-Inspectors and give useful assistance of a supplemental nature.

Army Remount Department.

Horse-breeding.

386. The latest information available concerning the Army Remount Department is for the year ending 31st March 1911. The figures given include the returns of the Hazara district of the North-West Frontier Province, which is included in the Ráwalpindi Circle. Of 245 stallions employed in the Punjab Circles at the close of the year, 128 were Arabs and 101 in all were at stud in the Jhelum Colony Circle alone. The chief horse-breeding operations of the Province are conducted in this Circle, which comprises the Lower Jhelum Canal Colony in which a majority of the grants allotted are on horse-breeding conditions. The success achieved is shown by the statement that out of 390 country-bred horse stock issued to the service during the year, 270 came from the Jhelum Colony, and in fact only 44 animals of this class issued were purchased in non-Punjab circles.

The district boards in "selected" districts had 161 stallions in employ, of which number 146 were Arabs. It is the function of the operations conducted by the district boards to build up the foundation upon which thorough bred blood can produce horses of the class required for remounts.

Mule-breeding.

387. The fact that mule-breeding is highly remunerative has not escaped the notice of the Punjabi, and considerable attention is now paid to this source of profit. In addition to the private demand, Government requires mules for Ordnance, Army Transport, and equipment purposes, and for Ordnance mules high prices are given. Mule-breeding is most popular in the Ráwalpindi Circle, but considerable success has been attained in the Chenab Colony, where extra land is given to village headmen on mule-breeding conditions. Out of 302 Government donkey stallions employed in 1910-11, 109 were in the Ráwalpindi Circle, the principal breeds being American, Cyprian or country-bred. There are practically no district board donkey stallions in "selected" districts. A total of 1,159 young mules were purchased (mainly in the Punjab), at an average cost of Rs. 89, for stocking the rearing depôts and eventual issue to the service.

Horse fairs and shows.

388. Eleven horse fairs were held in "selected" districts of the Punjab in 1910-11, *viz.*, at Ráwalpindi, Gujrát, Shahpur, Amritsar (2), Jalálabad (Ferozepore), Dera Gházi Khan, Multán, Lyallpur, Háfizabad (Gujránwála) and Jhang. A fair was also held at Haripur in Hazára district. The Sargodha (Shahpur) fair had to be abandoned owing to heavy rain. Prizes to the amount of Rs. 18,878 were awarded at these fairs; the Imperial allotment being Rs. 14,750. The balance was contributed by Provincial funds. Twenty medals also were given. At these fairs 485 remounts were purchased for Government, principally for Indian Cavalry, and 827 mules. In addition 2,139 mules were purchased by private persons. The purchases of mules were almost entirely at the fairs of the Ráwalpindi and Lahore Circles.

Veterinary and Live-stock.

Civil Veterinary Department.

389. The number of veterinary hospitals open at the close of 1911-12 was 109 at which during the year 241,291 cases were treated. Satisfactory progress has been made in the provision of suitable accommodation. Each district has now been provided with a touring veterinary assistant and each tahsil with a stationary veterinary assistant and with a hospital—though in many cases the hospital buildings are still but temporary—and there is one inspector for every two districts. The original scheme of development has accordingly now been worked up to. Since provincialisation in 1901 the record of the department has been one of rapid expansion and progress in every direction. The Punjab Civil Veterinary Department is the pioneer veterinary department in India, and the high state of efficiency that has been reached has been due to the energies of Major Walker who now severs his connection with the department which he organised.

A fresh phase now lies before the department. The questions under consideration are whether there should be two veterinary assistants for each tahsil and a veterinary inspector for each district; whether the work of the European Superintendents can be lightened and the first step taken to opening a career for native veterinary surgeons by the creation of a grade of Deputy Superintendent; and whether veterinary assistants can be placed under the control of the local bodies who pay for them. All this means extra expenditure and at the same time the need of more good bulls for breeding in almost all districts is pressing and must absorb much of the money available for the use of the department.

Contagious disease.

390. During the year 25,455 deaths were reported against 74,696 in the previous year. This satisfactory diminution may be ascribed in the main to an abnormally healthy year. There is strong evidence that the work of the department is becoming recognised by the people and frequent applications for assistance are received. There is less concealment of disease on the part of cattle owners. The monthly reports of the patwaris, though frequently submitted in very dilatory fashion, may be regarded as fairly accurate. There is considerable room for improvement in the prompt reporting of actual outbreaks by patwaris, however. Delay and remissness in this respect may be the cause of unnecessary mortality.

Bovines.

391. The deaths from rinderpest (9,317) were a satisfactory decrease from the appalling figures of the previous year. Inoculations were performed in 32,096 cases. The general success of rinderpest inoculation is now accepted. Since January 1st, 1912, owners of animals inoculated against rinderpest are required to pay at the rate of three annas per head (six annas in the hill tahsils). The veterinary assistant who does the work has to collect the money and credit it into the treasury. District boards may, if they wish, remit the fees on inoculations and credit Government annually with the amount which would have been realised had fees been imposed. So far the district boards of Siálkot, Gurdáspur and Shahpur have decided to remit the fees. Hæmorrhagic septicæmia caused 10,894 deaths and was reported from all districts except Hissar. Vaccination against this disease is still largely experimental and was only carried out in six districts.

Equines.

392. Complete figures for equine mortality in the Province are not available as the Civil Veterinary Department only reports for non-selected districts. A serious outbreak of glanders occurred among the tonga ponies of the Dalhousie and Kángra lines, and the energetic measures taken resulted in the destruction of 25 animals, compensation being given. The scantiness of the rainfall resulted in greatly reduced mortality from *surra*. Detailed instructions for the treatment of the disease have lately been issued.

Horse-breeding and horse shows.

393. The number of horse and pony stallions at stud in non selected districts was 66, and there were in addition 72 donkey stallions. Coverings averaged 57 for horse, 58 for pony and 48 for donkey stallions, which is regarded as satisfactory. Accurate figures of produce are difficult to obtain, and none are given by the Civil Veterinary Department.

Eight horse shows were held under the auspices of the department with a total attendance of 4,912. Rupees 2,631 were distributed in prize money, provided one-third from imperial and two-thirds from local funds and 3 medals were distributed. Altogether 520 animals appear to have changed hands, chiefly at Siálkot.

Cattle-breeding.

394. Most valuable information has been collected in Mr. Stow's Report on Cattle and Dairy Farming in the Punjab, and the importance of the subject is recognised. The improvement of the Hissar breed is provided for by the Hissar Cattle Farm, and a stud-grant at Kaliána in the Montgomery district will benefit the Montgomery strain. But for the Dhanni and Hariána cattle nothing has yet been done to preserve and extend these important breeds.

Improvement of wool.

395. Efforts in the direction of the improvement of wool in Kángra and Kulu by the importation of merino rams have met with some success, but the mortality among the imported animals has been serious. The importation of more rams and some ewes has been agreed to.

Cattle fairs.

396. Thirty-four cattle fairs were held in 20 districts. Some Rs. 13,000 provided from local funds were distributed in prizes and 9 medals were awarded. The importance of these fairs as markets cannot be over-estimated, but it is doubtful if they are successful as shows, and whether the prize money could not more profitably be spent in other ways. Judging by the amount of fees realised, the Amritsar and Rohtak shows are the most popular, but over Rs. 33,000 were realised at the five shows held in Hissar. The total amount realised in fees was Rs. 1,58,633.

Government Cattle Farm, Hissar.

General.

397. Owing to the shortage of rain and the failure of the hay and barani crop, reliance had to be placed on the cultivated fodder crop, from which the stock is now almost solely fed. The result of the cultivation of the irrigated land was very successful, but difficulties are continually arising over the canal water-supply, as the farm only receives tail irrigation. Owing to the prevailing scarcity labour was cheap, and the opportunity was taken to introduce improvements on the farm. An increase in the wages of the menials will, however, sooner or later have to be faced.

Cattle-breeding.

398. The breed of cattle has immensely improved, now that a fixed type is being produced. The type is much appreciated by those who take stud bulls from the farm. The number of cows was 1,253 and they form a very fine herd. During the year 739 calves were born. Disease has given a good deal of trouble, but there has not been any abnormal mortality.

Seventy-two bulls were issued to Punjab district boards at the low price of Rs. 200 apiece, 28 to the Civil Veterinary Department of the United Provinces and two were sold to breeders. One hundred and fifty siege train bullocks were supplied to the Military at Rs. 150 each and 11 bullocks to jails at Rs. 175.

Mule and donkey-breeding.

399. There were 59 pony mares and 94 donkey mares kept for mule and donkey-breeding with 5 jacks. The sanctioned strength of 100 mares in each case will probably be completed this year. During the year 22 mules were born and 60 were purchased. The number of mules supplied to the Military was 32. Donkey-breeding has been recently started to supply jacks required by Government and the district boards. Seventy-five mares foaled during the year. The number of donkey colts on the farm was 70. Eight jacks were issued, of which 7 went to the Civil Veterinary Department, Punjab. The price allowed is only Rs. 400 apiece.

Sheep-breeding.

400. There were 347 ewes present at the end of the year, divided up into flocks of country-breds, half-bred merinos and pure-bred merinos. Merino rams are now placed with each flock, as it was found that the lambs of the half-bred flock by a half-bred ram had strongly marked country wool. The pure-bred imported merino ewes and rams do not do well as they suffer terribly in the heat. The number of lambs born was 417, of which 17 were merino. Forty-eight ewes, 1 ram, 3 female lambs and 131 male lambs were sold during the year. The sheep-breeding operations have the object of breeding rams for issue to sheep-breeding districts, principally to improve the wool of the country sheep. In the opinion of experts the use of the half-bred rams raised on the farm will do much to improve the fleeces of the country sheep.

Financial.

401. The farm was made over to the Punjab Government on April 1st 1912. The receipts for the year aggregated Rs. 85,541 and the expenditure Rs. 1,06,266. The small loss on the working is more than compensated for by the improvement in the cattle of the Province brought about by the bulls issued to districts from the farm. It is only fair too to point out that much of the stock issued to Government departments and district boards is sold at less than the market value. This is particularly true of the siege train bullocks issued to the Military Department. This class of bullock gets more expensive every year. The valuation of the 4,710 animals on the farm on March 31st, 1912, is taken at Rs. 3,09,039.

28.—Weather and Crops.

Weather.

402. April and May were (fortunately as the event shewed) so dry as seriously to contract kharif sowings. The monsoon reached the Punjab on June 13th, and gave general rain for five days. But the current died away completely till the third week in August. And the prolonged drought in the hottest part of the year produced a heavy percentage of failure on the small area sown. In July and August the Province received only 34 per cent. of its normal rainfall. The rainfall statistics, however, do not adequately express the prolongation of the drought or the damage inflicted. It was a bad summer, particularly hard on overworked and underfed well cattle. Fitful and local rain in August and September marked the tardy re-establishment of the monsoon current, revived the remnants of the barani crop, and in some cases produced remarkable results with late sowings. The monsoon disappeared by the end of September after a cyclonic storm which brought some measure of relief to the Delhi division. Not only were the rains 40 per cent. in defect, but on the whole singularly ill-timed. They were followed by a phenomenal disturbance which produced most welcome autumn rains on October 26th, and which continued for some four weeks. This rain was responsible for very extended sowings. An abnormally wet January was unfortunately followed by a dry

[F]ebruary and March when the grain should have been swelling. But showers [i]n April and May saved the situation. Cotton and sugarcane were damaged [c]onsiderably by insect pests which of course flourished during the drought.

Kharif crop, 1911.

Area in acres—Sown 7,439,294; failed 2,273,031, matured 5,166,263; percentage of failed on [s]own 31.

403. The sown area was only 64 per cent. of the normal, and of this no [l]ess than 31 per cent. failed. The district areas varied chiefly with the irriga[t]ional protection available, the worst being Hissar with 43 per cent. of normal sowings and 76 per cent. of failure. Rohtak returned 32 per cent. and 47 per cent., and Karnál 42 per cent. and 26 per cent. In the hill and submontane districts of Simla, Kángra and Hoshiárpur alone were fair crops harvested from unirrigated land.

Rabi crop, 1912.

Area in acres—Sown 18,869,148; failed 2,549,266; matured 16,319,882; percentage of failed on sown 14.

404. The rains in September, October and November completely changed the picture. A very large area normally under autumn crops was available for sowing and many fields of standing crops had been grazed off. The fullest advantage was taken of the opportunity, and the results were a sown area 13 per cent. above normal and almost universal expectations of a record harvest. Untimely drought in February and March dashed these hopes to some extent in most of the Province. But even so Delhi and Ráwalpindi gathered the largest spring crop recorded; that of Gurgaon was 63 per cent. above the normal; while Rohtak reported a harvest $2\frac{1}{4}$ times better than the average. The net result for the Province was a good 18-anna crop.

Crops.

405. The area and outturns of the chief kharif staples were all well below normal. The calculated outturns are in tons—rice 227,445, jowar 67,674, bajra 97,396, maize 366,455. Alone of the above, maize was able to make a great recovery on the late rainfall and indeed the rice estimate errs probably in the direction of excess. Sugarcane was poor everywhere: it was damaged by drought and by insect pests and many fields were cut for fodder in the winter. The out[tu]rn of cotton from British districts is returned at 206,507 bales and was much [u]nder normal. The unirrigated crop was poor everywhere, while boll-worm in [t]he first part of the summer and cold in November and December damaged irri[g]ated plants.

The wheat area was the largest recorded since 1907. The weight is esti[m]ated at 3,387,085 tons, an outturn of 12·6 bushels per acre. Barley shows a large increase on previous figures, the yield being estimated at 381,711 tons. The increased area is attributed to the demands of breweries in Europe. Gram with [1],126,216 tons and rabi oilseeds (rape and toria) with 199,964 tons were well up to or above normal.

Irrigated area.

406. The total irrigated area was 11,316,611 acres as against 10,357,306 of the previous year. Wells are responsible for one-third and Government canals for two-thirds of the total, as the areas irrigated by tanks, private canals and other sources are negligeable. The drought of course placed a great strain on all sources of irrigation, and this was on the whole well met by the Government canals. They must at least have saved the lives of many thousands of cattle, for water was given freely to fodder crops. The inundation canals in Shahpur are reported to have failed, and there was a similar failure of the Ravi inundation canals in Montgomery. But in a year like 1911 the phenomenon of shortage at the tail of irrigation works and on all inundation canals fed by rivers which are harnessed upstream of them is really only quite normal. The masonry wells in use increased by 2,713 and non-masonry wells by 640.

Prices.

407. In spite of the heavy crop, a brisk demand for export wheat kept the harvest prices high and in fact, in practically all districts, the quotations are higher than in the previous year. Stocks are everywhere sufficient, but even in August owners were said to be holding up grain for a further rise in price which weather conditions in Europe were thought likely to bring about. The harvest prices of wheat per maund of $82\frac{2}{7}$ lbs. at the principal centres were—

Delhi Rs. 3-5-0, Ferozepore Rs. 3-1-0, Lahore Rs. 3, Amritsar Rs. 2-13-0 and Lyallpur Rs. 2-14-0. With the exception of cotton the harvest prices of the other principal crops remained at a similarly high level, toria selling at Lyallpur at the remunerative price of Rs. 4-8-0 a maund. Cotton, however, did not maintain the record price of the previous year, though the rates quoted are well above normal. The harvest rates per maund for unginned cotton were Delhi Rs. 9, Ferozepore Rs. 7-4-0, Lahore Rs. 7-8-0, Amritsar Rs. 7-10-0, and Lyallpur Rs. 8-4-0.

29.—Horticulture.

Agri-Horticultural Gardens, Lahore.

408. Classes for the training of gardeners and boys were started in 1910 and are proving successful, as the demand for good gardeners is on the increase. The courses, which are chiefly of a practical nature, were attended by 25 students in 1911-12. The success obtained by the eucalyptus in the gardens, five varieties of which now existing were planted as far back as 1861, has led to extensive trials of other varieties, and at present 108 out of the 140 varieties known have been planted. The total expenditure in 1911-12 amounted to Rs. 34,525 and was met by sales of garden produce, amounting to Rs 20,740, and by contributions from Local Bodies, Rs. 2,542, the balance being met from the annual grant from Government amounting to Rs. 13,000. The Superintendent was in charge of the garden portion of the Punjab Government Camp at the Coronation Durbar.

Other gardens.

409. The Shalimar and Shahdara gardens at Lahore also are under the supervision of a European gardener and the steady improvement of the condition of these gardens continues.

At Delhi the European gardener is in charge of the old established gardens at the tombs of Humayun, Safdar Jang and Ise Khan, and special efforts were made, with success, to have these gardens in good order, in spite of the drought of the early and middle summer, on the occasion of the Coronation Durbar. A garden of 8½ acres was laid out at the site of the King Edward VII Memorial Statue. An interesting experiment was made at this garden. In order to ensure a green surface at the time of the stone laying ceremony methi (trigonella) seed was sown when the grass was planted. The methi sprang up in about a month and maintained a green surface throughout the cold weather, which could be smoothly mown and did not interfere with the growth of the grass. The ground was allowed to get dry at the beginning of the hot weather and within a week the methi had died out leaving good lawns in its place. The methi, belonging to the order of "Leguminosæ," acts as a manure and leaves the soil richer in available nitrogenous matter. The Rang Mahal, Mumtaz Mahal and Diwan-i-Am sections of the Palace Garden at the Fort were laid out during the year and, in spite of unexpected difficulties encountered in the excavation of foundations of ancient buildings, were ready for the Coronation Durbar. Considerable trouble was given by the electric pumping apparatus which became practically useless.

Fruit culture.

410. Government orchards are maintained at Mahasu and Summer Hill under the immediate supervision of the Simla municipal committee. These orchards, in addition to producing fruit for the market, are nurseries of fruit trees suitable for the hills, for which there is a constant demand. The Mahasu orchards are in the catchment area of the Simla water-supply and the question of their abolition is under consideration as they involve some contamination of the water-supply of Simla.

Three new orchards were established by the Forest Department during the year in the Kulu division, at a cost of Rs. 390, and wild apple and pear stocks have been planted out. It is satisfactory to find that the suspicion which had arisen in the minds of the local villagers that Government intended putting a heavy revenue on fruit trees once they were established has died down, and the people are now anxious to get their wild trees grafted by our malis and are planting wild stocks.

Olive culture.

411. A further sum of Rs. 10,000 has been provided in the Forest Department during the financial year 1912-13 for the cultivation of European olives. The work is being supervised by Mr. Mitchell, and promises to be very successful. The Local Government has sanctioned the Ghandala Reserve being kept for olive cultivation instead of being included in the forests in which browsing is to be provided for the Silladar Camel Corps.

30.—Forests.

Forest Department.

Separation of Hazara division from the Punjab.

412. From the 1st April 1912, the Hazara division was removed from the control of the Conservator of Forests, Punjab, and with the division its establishment of 7 Forest Rangers, 5 Deputy Rangers, 23 Foresters, 126 Forest Guards and 4 clerks.

Alteration in area.

413. The area under the control of the Forest Department in the Punjab was reduced during the year by 6,912 acres and now stands at 8,723·13 square miles. The chief items of reduction were 2,494 acres of Protected Forests in the Multan division and 3,432 acres of Unclassed Forests in the Lahore, Montgomery and Shahpur divisions, handed over to the Irrigation Department, and 725 acres of Undemarcated Leased Forests in the Bashahr division given up for cultivation.

Forest settlements.

414. Dera Chahl and Sultanke forests in the Lahore division, with areas of 700 and 455 acres, respectively, were notified as Reserved Forests under section 19 of the Indian Forest Act. The settlement is still pending of the Terah, Baoli Lehna Singh, Mahandevi and Chhaoni forests in the same division, with an aggregate area of 31,231 acres, and of a triangular block of 20,000 acres for one of the new irrigated plantations near Khánewal in the Multán division. Orders have been received sanctioning the revision of the Mr. Minniken's Settlement Report of the Sutlej Valley Forests in Bashahr and this will now be undertaken by the present Divisional Officer.

The preparation of a record for certain jagir forests in Kángra is proceeding under the Settlement Officer. The suitability of the present system of forest conservancy in Kángra has been questioned by the Forest Department, in consequence of the opinion expressed by the Conservator that protected forests in Kángra, both demarcated and undemarcated (outside the Kulu subdivision), are suffering a rapid deterioration. The cause Mr. Fisher considered to be excessive grazing, and the remedy which he suggested was an amendment of section 29 (*b*) of the Forest Act. An alternative is a special forest regulation for Kángra as was suggested by Sir James Lyall 20 years ago. Sir James Douie has indicated the main lines of enquiry in connection with the question of the existence of serious deterioration and of its cause and cure, if it is found to exist, in a note, which is under consideration by the local officers.

Working plans.

415. The proposed general substitution of the group for the selection method in the hill forest working plans has been postponed pending further experience.

The working plan for the Upper Ravi forests has been formally sanctioned during the year. The plans for the Murree Cantonment forests, Dalhousie Municipal forests and Dagshai and Balun Cantonment forests have been accepted by the authorities concerned and have been brought into force. The working plan for the Subathu Cantonment forests has not yet been accepted by the Military authorities. Mr. McCrie, Deputy Conservator of Forests, with a party of 3rd year students from the Imperial Forest College, Dehra Dun, visited Dharmsála and collected data for a working plan for some 12 square miles of municipal forests. Considerable progress has been made with the working plan of the Pabar forests which is now being written by Mr Gibson.

The preparation of working plans for the Salt Range forests cannot be proceeded with until final orders are received on the recommendations of the Camel-Browsing Committee referred to in paragraph 424.

Forest offences.

416. The total number of forest offences reported, 9,250, shows a serious increase of 17 per cent. on the already high figures of the previous year. The increase is attributed to the general scarcity of fodder consequent on the failure of the monsoon. The discovery of illicit cultivation of forest land in Kulu, in the course of settlement operations, increased the number of cases taken into Court. Cases compounded under section 67 of the Forest Act, 8,071 in number, were swollen chiefly by illicit grazing in the Ráwalpindi and Jhelum divisions. The average compensation per case was Rs. 4-1-6 and per head Rs. 2-14-5.

Protection from fire and cattle.

417. The total number of fires was 288, burning 20,447 acres. The general dryness of the year was favourable to forest fires, but incendiarism continued in the Ráwalpindi division and punitive measures are urgently required.

In almost all divisions forests were thrown open to grazing to meet the scarcity of fodder and the area closed to all animals fell from 553 square miles to 174 square miles. The area entirely or partially closed amounted to 16·55 per cent. of the State forests, a reduction on previous figures.

Reproduction, natural and artificial.

418. The year has been a bad one for natural reproduction, though coppice reproduction has been satisfactory. Progress was made with plantation at Kot Lakhpat (Lahore), but little or nothing has been done towards the reboisement of the Pabbi hills. More thinning work has been possible, as a large number of trained men were available.

Experiments.

419. Encouraging results have been obtained from the eucalyptus experiments: the most extensive of which have been made in the Simla division and others at Dharmsála, Changa Manga and Kot Lakhpat. The resin-tapping experiment proves an extraordinary increase in the yield of trees "tapped to death" and indicates the advisability of so tapping all trees marked for felling. Observations to ascertain the most economical freshening period are being carried on, but conclusive results have not yet been obtained.

Outturn.

420. The total outturn of timber during the year was 4,108,232 cubic feet as against 4,811,411 cubic feet in 1910-11, a decrease of 703,179 cubic feet, mainly due to alteration in system in the Bashahr division. The total outturn of firewood was 16,404,152 cubic feet solid as compared with 24,895,487 cubic feet solid extracted in 1910-11, a decrease of 8,491,335 cubic feet solid. Of the total outturn of timber, 9·71 per cent. came from Reserved Forests, 55·08 per cent. from Protected Forests, 2·68 per cent. from Unclassed Forests and 32·53 per cent. from Leased Forests. Of the firewood, 29·37 per cent. came from Reserved Forests, 48·73 per cent. from Protected Forests, 7·65 per cent. from Unclassed Forests and 14·25 from Leased Forests. The total value of minor produce rose from Rs. 17,00,442 to Rs. 23,45,242. Of the total, 12·00 per cent. came from Reserved Forests, 50·91 per cent. from Protected Forests, 2·18 per cent. from Unclassed Forests and 34·91 per cent. from Leased Forests.

The amount of timber removed under rights, privileges or free-grants was 1,283,441 cubic feet as compared with 902,721 cubic feet in 1910-11, while the firewood removed in these two years was 12,642,731 cubic feet and 19,462,415, respectively. The percentage of the total outturn was 31·24 for timber and 77·07 for firewood. The increase in the removals of timber by right-holders occurred in the Bashahr division, and is due to the grant of trees at the annual distribution in Pandrabis, Nogli, Taranda and Chini Ranges, where distributions were not made last year. The decrease in firewood occurred in the Kulu division in consequence of the recalculation of the produce removed by right-holders. The value of the minor produce taken was Rs. 20,32,310 against Rs. 14,67,351 in the previous year; this increase is also in the Kulu division and also due to the recalculation of produce removed by right-holders.

Resin.

421. The resin factory at Shahdara has been worked almost continuously from the end of January to the close of the year. In April day and night working was introduced, but in May, June and July owing to the excessive

heat it was found necessary to close down between 9 A.M. and 5 P.M. As a result of the experience gained it appears that the maximum quantity of crude resin, which can be dealt with by the present plant, is some 13,000 maunds annually, so that a larger plant will be necessary if the industry is to be developed to its full extent. Proposals for the purchase of a larger plant have been accepted by the Local Government, and Mr. Gibson, Deputy Conservator of Forests, is now investigating certain details in connection with the new plant while on leave in Europe.

422. The total imports of foreign timber show an increase of 2,308,090 cubic feet over the imports of 1910-11, rising to 7,810,078 cubic feet as compared with an average of 5,217,844 cubic feet during the three preceding years. The Indus and Jhelum rivers show an increase of 320,931 cubic feet in deodar and pine logs. The Jhelum and Chenab show an increase of 2,031,843 cubic feet in deodar sleepers. Other sleepers also show an increase of 301,546 cubic feet, while other scantlings show a decrease of 168,753 cubic feet. Foreign imports.

423. A favourable account is given of the working of the rules regarding Government trees growing on private or common lands in the hill tahsils of Ráwalpindi district which were sanctioned by the Punjab Government in March 1909. Two retired Subedars and one Jamadar and a pensioned Inspector of Police have been associated in the management and protection of these trees, and it is satisfactory to learn that they have administered their charges with success and have secured the confidence of both the officials and the people. Rawalpindi rules.

424. A committee consisting of the Financial Commissioner, the Director-General of Supply and Transport and the Conservator of Forests considered the arrangements required to meet the browsing requirements of the 8 Silladar Camel Corps located in the Punjab. It was found that ample browsing could be provided in the Punjab and North-West Frontier Province, and a complete scheme was drawn up and has been submitted to the Government of India. Browsing of camel corps.

Arboriculture.

425. No report on arboriculture was due in 1911-12 as under orders issued in 1910 a triennial report only is required. The last report was for the triennium 1908-09 to 1910-11, and was incorporated in last year's administration report. In the Government review which subsequently issued the improvement in tree growth in the Province during the last 35 years is acknowledged, but the absence of systematic working in many districts, in spite of the proved profitableness of the enterprise, is deplored : and the responsibility of Commissioners in the matter is once more affirmed. The subject is further referred to in section 24 under District and Local Boards. General progress.

31.—Mines and Quarries.

426. The report of the Chief Inspector of Mines in India deals only with mines coming within the scope of Act VIII of 1901, and does not include quarries which are under 20 feet deep. There are 10 coal mines in the Punjab, 8 in Jhelum (output 26,982 tons) and 1 each in Shahpur and Mianwali with outputs of 1,071 and 2,522 tons respectively. One mine only (in Jhelum) is worked by mechanical power. The daily average number of persons employed was 1,505 ; 936 below and 569 above ground : 5 women and 12 children were employed above ground. The output per person employed below ground is 32 tons and above and below ground 20. Four fatal and 3 serious accidents are reported from the Jhelum mines involving six deaths : one fatal case, however, appears to have occurred at Abbottabad. None of the accidents present any special features. Limestone is worked in a mine in Hoshiárpur employing 40 men below and 50 above ground, with an output of 250 tons. Four Government salt mines in Shahpur, Jhelum and Miánwáli are under the Act. Below ground 857 persons are employed including 349 women and 54 children, and 33 above. The total output was 124,603 tons. One fatal and 13 serious accidents occurred in these mines. Five slate mines are worked in Kángra and 3 in Gurgaon with Indian Mines Act.

outputs of 4,112 and 2,009 tons respectively. The industry employs a daily average of 183 below and 418 above ground. Twenty-nine children are employed below and 63 women and 67 children above ground at these mines.

Output of minerals.

427. In the returns of production minerals are divided into class I, for which approximately trustworthy annual returns are available, and class II, for which full particulars cannot be procured. Under class I 30,575 tons of coal were extracted, the details of which have been given in the last paragraph. The very considerable decrease of 18,000 tons is due to the final abandonment by the North-Western Railway of their Dandot colliery in June 1911. The colliery is now being worked by an Indian firm who find a ready sale for their coal to brick and lime burners. The average price per ton of Punjab coal was Rs. 5-4-1. Gold was produced to the extent of 134·62 ounces, valued at Rs. 7,770. The industry gave employment to a daily average of 245 persons. The production of petroleum amounted to 1,400 gallons. The output of rock salt includes 124,603 tons raised in the Salt Range and 3,996 tons in Mandi State. In addition some 1,200 tons of salt were produced by evaporation from well brine. Information as to the salt industry is given in Chapter V. The outturn of saltpetre was 2,845 tons, valued at Rs. 7,73,835. Under class II the output of alum in Mianwáli was 6,160 cwt., valued at Rs. 41,880. The returns for building materials and road metal are too incomplete to be of real value, but they represent an important item in the industries of the Province. Limestone and kankar give 8,009 tons, valued at Rs. 5,445 ; slates 6,121 tons, valued at Rs. 96,345 ; and miscellaneous 4,704 tons, valued at Rs. 1,095. Gypsum was extracted in the Salt Range to the extent of 1,469 tons, and in the Delhi district there was a large increase from 450 tons to 3,260.

Mineral concessions.

428. One coal mining lease for 20 years was granted in respect of 146 acres in the Jhelum district, and in the same district two prospecting licenses were renewed and one fresh license was granted, the minerals sought in each case being coal.

32.—Manufactures.

General.

General.

429. Monographs dealing with the principal industries of the Province have been compiled at various dates since 1884.* More recently a complete industrial survey of the Province has been carried out for Government by Mr. A. Latifi, I.C.S., and the results with comments and suggestions were published in 1911.† A vast amount of information has been collected during this survey and now made public. The scarcity of labour, skilled and unskilled, the immobility of capital and the absence of any proper organisation for the distribution of commodities among consumers find a prominent place in Mr. Latifi's comments.

Salvation Army efforts.

430. Considerable enterprise is being shewn by the Salvation Army in the development of the cottage industries of the Province. The Sir Louis Dane Weaving School for the Punjab is established in the fort at Ludhiána and weavers visit the school from all parts of India. Improved handlooms have been supplied in considerable numbers. Small branch weaveries have also been established at Lahore, Cháwa (Ludhiána), Kot Mokhal (Siálkot), An-

*The list of these publications is as follows :—

Monograph.	Year of publication.	Monograph.	Year of publication.
1. Cotton Manufactures ...	... 1884	9. Pottery and Glass Industries ...	1892
2. Woollen Manufactures ...	... 1885	10. Leather Industry ...	1893
3. Silk Industry	... 1887	11. Ivory Carving ...	1900
4. Do. do. (revised) ...	... 1899	12. Stone Carving and In-laying ...	1906
5. Brass and Copper ...	... 1888	13. Carpet-making ...	1907
6. Wood Manufactures ...	... 1889	14. Iron and Steel Industry ...	1908
7. Gold and Silver Work ...	... 1890	15. Paper making and papier mache ...	1908
8. Fibrous Manufactures ...	... 1891	16. Wire and Tinsel Industry ...	1909

†The Industrial Punjab by A. Latifi, I.C.S., published by Longmans, Green & Co., 1911.

(Kulu) and Chini (Bashahr State). A silk department is now being added to the Ludhiána School, for instruction in reeling and spinning silk. Reeling centres are also being opened at Lahore and other places.

Factory Act.

Factories and employees.

431. The total number of factories dealt with under Act XV of 1881 is 268, of which no less than 202 are cotton-ginning, cleaning and pressing factories (an increase of 11 since the previous year). Lahore, Multán and Lyallpur have 36, 30, and 28 such factories, respectively. Sixty-three factories, however, remained closed during the year, and of these 59 were ginning factories which were affected by the shortage of cotton. The number of accidents reported is 258, of which, however, only 46 were serious and 8 fatal. The average number of operatives employed fell by 1,442 to 28,184 which includes 3,456 women and 694 children. The decrease, which is most noticeable in the Delhi, Hissar and Ráwalpindi districts, was due to the closing of so many ginning mills and, in Delhi, to the high prices paid for labour in connection with the Coronation Durbar, which drew many of the labourers away from the factories. The difficulty of obtaining labour has affected the working of the Delhi weaving and spinning mills.

Inspections.

432. Out of 205 working factories, 155 were inspected once or more, while 50 were not inspected at all. The falling-off in the number of inspections is presumably due to the remarks, reproduced in the recent reports, of the Factory Commission as to the uselessness of inspections by District Magistrates and Civil Surgeons. The impending appointment of a whole-time Factory and Boiler Inspector under the new Act will ensure regular inspection of every factory.

The mid-day stoppage under section 5-A of the Act is reported to be generally observed, but it is doubtful if the rule is observed to the extent reported. The percentage of working factories, which are returned as observing a Sunday holiday, continues to increase, being 73 as compared with 70 in 1910, and most Deputy Commissioners report that the Sunday holiday is observed, but in 7 out of 41 factories inspected by the Director of Land Records or his Personal Assistants it was found that there was no Sunday holiday, and in some of these cases there was no weekly holiday either.

The sanitary arrangements are generally reported satisfactory, but in the provision of pure air, clean water and an efficient conservancy the factories stand in need of great improvement. In spite, however, of sanitary defects the general health of the operatives is good.

The provisions of the Act as to the employment of women are rarely observed, and the overtime working of women is fairly general. Children under 14 are also commonly worked as whole timers.

There was, however, only one prosecution during the year, and it is explained that in view of the introduction of a new Act it was not thought advisable to institute many prosecutions under the old Act.

Wages.

433 There was no marked increase of wages except at Delhi, where the Coronation Durbar sent up the price of labour. In Lyallpur and Lahore wages fell owing to the poor kharif and the consequent slack demand for agricultural labour. Wages remain in excess of what is generally paid to agricultural labourers.

New Act.

434. Provisional rules under the new Act (XII of 1911) have been drawn up and were published in the Gazette on March 29th, 1912. The report for the year 1911 is accordingly the last which will be submitted under the old Act.

33.—Trade.

Internal rail and river-borne trade.

Volume of trade.

435. The imports have increased both in volume and value Rs. 338 lakhs) and are the largest hitherto recorded. The exports have also increased, and are only Rs. 93 lakhs short of the great wheat year of 1907-08.

The following table expresses the total rail and river-borne trade of the past three years, exclusive of animals and treasure :—

Years.	Imports.		Exports.	
	Maunds.	Value in rupees.	Maunds.	Value in rupees.
1909-10	39,743,586	25,01,28,904	45,501,556	25,17,11,928
1910-11	42,340,721	26,62,99,310	50,299,736	25,43,82,426
1911-12	55,731,214	30,01,28,820	58,815,182	27,63,21,458

Imports.

436. Imported commodities contributing more than 1 per cent. of this total value are :—

Article.	Per cent.	Value in rupees, lakhs.	Article.	Per cent.	Value in rupees, lakhs.
Apparel ...	3	94	Oils ...	2	56
Coal and coke ...	2	64	Oil-seeds ...	2	54
Cotton ...	33½	10,09½	Provisions (ghi) ...	3	96½
Drugs ...	2	63	Railway plant ...	3	80
Dyes and tans ...	1½	47	Spices ...	1	38½
Grain and pulse ...	3	98	Sugar ...	12	370
Hides ...	1	38	Tobacco ...	1	22
Jute ...	3½	1,06½	Wood ...	3	89½
Metals ...	11	328½	Wool ...	2½	78½

Among cotton goods foreign piece-goods furnish 22 per cent. of the total imports : Indian piece-goods 8½ per cent. and Indian twist and yarn 1½ per cent. Among metals hardware and cutlery are responsible for 4½ per cent., wrought iron and steel bars, etc., 3 per cent. and machinery 1 per cent. Rice is the chief grain imported, and refined and unrefined sugar approximately halve the sugar imports.

Increases.—Coal and coke have risen by Rs. 13½ lakhs, Indian twist and yarn Rs. 17 lakhs, foreign piece-goods Rs. 85 lakhs, gram and pulse Rs. 12½ lakhs, "other" iron manufactures Rs. 39 lakhs, railway plant and rolling stock Rs. 48 lakhs, raw sugar Rs. 31 lakhs, unrefined sugar Rs. 58½ lakhs and rough timber Rs. 24 lakhs.

A light cotton crop produced a heavy demand for twist and yarn in the mills, which was supplied chiefly from Madras and Karachi. Even so no less than 59 out of 202 ginning factories were closed down in the Punjab. The failure of the sugarcane threw the province back chiefly on the United Provinces for its gur.

Decreases.—The chief decreases are raw cotton Rs. 53½ lakhs and refined sugar Rs 35½ lakhs. A decrease of Rs. 68 lakhs in "other oil seeds" is partly due to the newly adopted separate classification of cotton seed, hitherto returned under this head, which accounted for Rs. 30 lakhs last year. The cotton figures reflect general shortage and high prices in the Indian continent, and a fine rice crop in 1910 naturally reduced imports. High duties are apparently gradually reducing the consumption of the better grade foreign liquors, for the people who drink these are the very classes who do not share in the general prosperity of the province. On the other hand, they tend to substitute comparatively pure indigenous spirit for the cheaper grades of imported liquor.

437. The more important exports show the following percentages of the total:— **Exports.**

Article.	Per cent.	Value in rupees, lakhs.	Article.	Per cent.	Value in rupees, lakhs.
Apparel ...	2½	75½	Oil-seeds ...	10	2,63½
Cotton ...	15	4,05	Provisions ...	1	28
Grain and pulse ...	53½	14,48	Railway plant ...	1	34½
Hides ...	5	1,26½	Salt ...	1	22½
Metals ...	2	58	Wool ...	3	73

Half the grain exported is wheat, the other half being very largely grain and pulse. Practically the whole of the oil-seeds are classified as rape and mustard, linseed and til being very unimportant exports.

Increases.– The chief increases in exports have been gram and pulse Rs. 335 lakhs, other grains Rs. 113 lakhs, hides and skins Rs. 21½ lakhs Probably the gram figures indicate efforts to dispose of surplus stocks after two successive bumper gram harvests. The most interesting figure is that for barley which is responsible for the increase in "other grains."

The separate shipment of Indian barley, which has hitherto largely been shipped as an admixture of wheat, has been encouraged by an alteration in the wheat contracts reducing the permissible admixture of barley from 5 per cent. to 2 per cent The general shortage of barley in 1911 led to a strong demand for Indian barley. Unfortunately the grain exported did not meet with general satisfaction. British buyers complain of an undue proportion of perished grain due to premature harvesting and to careless exposure to damp. If this profitable market is to be captured the practice of sowing mixed wheat and barley will have to be abandoned and more care will have to be bestowed on the barley crop.

Decreases.—The most marked decreases are raw cotton Rs. 128 lakhs, wheat Rs. 35½ lakhs, rape and mustard Rs. 30½ lakhs, railway plant (other sorts) Rs. 42 lakhs and unrefined sugar Rs. 11½ lakhs. Shortage in the Punjab coinciding with a bumper crop in America explain the cotton figures As the exports of wheat from India increased during the year, the contraction in the Punjab exports is surprising. The figures relate to the rabi of 1911, which was a somewhat disappointing crop. Exports of wheat flour have increased by 2,000 tons in weight and Rs. 1,86,000 in value, the chief markets being the United Provinces, Bengal, Rajputana and Central India.

The heavy decline in rape and mustard, in weight 29,000 tons, is due no doubt to a short harvest in 1911. Karachi took Rs. 187 lakhs worth and Calcutta nearly Rs. 45 lakhs. The latter figure is somewhat surprising at first sight, but Calcutta is always a good customer and took Rs. 43 lakhs worth last year.

Animals.

438. Animals to the value of Rs. 7,20,395 were imported by rail and exported to the value of Rs. 1,28,17,713. The chief imports were cattle from Rájpútána and horses from Sind, the United Provinces and Calcutta. Among exports cattle for the United Provinces and Bombay and horses for Bengal, the United Provinces and Rájpútána figure largest.

Treasure.

439. Under imported treasure totalling Rs. 3,64,57,451, gold, coin and bullion, contributes Rs. 95,56,515, silver coin Rs. 46,35,812 and silver bullion Rs. 2,22,65,124 Silver bullion has risen by Rs. 73 lakhs. This is a fairly stable commodity which has only varied between Rs. 150 and 240 lakhs in the last five years. Silver coin, on the other hand, is astonishingly volatile. The imports fell from Rs. 300 lakhs to Rs. 10 lakhs in 1908 and 1909, then rose to Rs. 119 lakhs, and for the last two years have fallen steadily. Gold imports grew steadily up to last year, when the highest figure ever recorded was reached. They have declined this year by no less than Rs. 185 lakhs, but are still Rs. 20 lakhs higher than in any year previous to 1910-11. On the other hand, silver coin to the value of Rs. 1,19,94,308 was exported and Rs. 1,23,532 in silver bullion, the total exports of treasure reaching Rs. 1,21,17,840.

River-borne trade.

440. The river-borne trade for the last three years compares as follows:-

Year.	Imports.		Exports.	
	Maunds.	Value in rupees.	Maunds.	Value in rupees.
1909-10	222,020	15,91,281	2,001,519	78,74,220
1910-11	238,780	16,48,553	2,018,975	69,89,559
1911-12	246,020	17,58,896	2,279,630	75,75,212

Wheat, the only considerable export (Rs. 42 lakhs), shows a shrinkage almost proportionate to that of the rail-borne wheat. Nothing short of a revolution in towage methods will vivify the great water-ways provided by the Punjab rivers.

Distribution of trade by localities.

441. The Delhi Durbar naturally attracted a good deal of extra trade to the city. The total increase of imports to Delhi was about 130,389 tons.

Trade with Trans-Frontier Countries.

Trade with Afghanistan.

442. The trade with Southern and Western Afghanistan is registered at the Border Police Post at Khar in the Dera Ghází Khan district. This year, as last, no trade followed the route *viâ* Peshin or Toba from Kandahar; all being recorded as using the route *viâ* Musa Khel, Zhob and Kamar-ud-din Karez. The total imports are valued at Rs. 37,000, a decrease of nearly Rs. 54,000. The only important increase is of raw wool, due to low prices in Afghanistan. The chief decreases are under fruits, ghi, other saline substances and timber, by far the largest decrease being under fruits. This is attributed to high prices in Afghanistan and to a preference on the part of traders for other routes. No tea was imported at all. Exports have also decreased by Rs. 31,000 and are put at Rs. 23,000, the chief decreases being under rice, manufactured leather, European cotton piece-goods and sugar. In the case of rice the falling off is attributed to the high price of this commodity in the Punjab, and in the case of the other articles to the inability of the Pathan traders to compete with those who use easier routes *viâ* Chaman and other places. Another possible explanation is that high prices in Afghanistan, due to the poor autumn harvest of 1911, left the people small margin for luxuries.

Trade with Ladakh.

443. All the trade with Ladakh passed *viâ* the Sultanpur and Kulu route. The trade post is at Sultanpur. Imports increased in value by Rs. 14,000 to Rs. 1,79,000, due to an increased import of charas of 500 maunds in weight and

Rs. 42,000 in value. The progressive increase in charas imports is due to the free manufacture of the drug in Yarkand.

The trade in borax continues to diminish. Large stocks had been sent in to the province by the late contractor in Ladakh, whose contract ended in 1909-10, and these stocks remain still to be worked off. A decreased import of raw silk to the value of Rs. 18,000 is attributed merely to a natural fluctuation of trade. The falling-off in the import of wool (33⅓ per cent.) is said to be due to the continuing diversion of the trade to the Almora route, and also to the fact that traders' flocks were surprised on the Láhul side of the Rohtang Pass by early snowfall.

Exports are reported as valued at Rs. 1,21,000 exclusive of treasure. The trade in coral seems to be reviving. The decrease in the export of European cotton piece-goods (21 per cent.) has been more than compensated for by an increase in Indian cotton piece-goods of 26 per cent. Exports of green tea fell from 901 to 645 maunds. This year's exports consisted entirely of Kángra tea, and it is said that more tea than before went to Leh from Amritsar by other routes. The export of black tea shews a progressive increase.

Trade with Tibet.

444. The greater part of the trade with Chinese Tibet passes by the Simla routes. Imports have decreased in value by nearly 4 per cent. to Rs. 2,48,000. The chief heads of decrease are "Horses, ponies and mules" and borax, while the only noticeable increase is under "Skins of sheep and goats." Exports have decreased by nearly 20 per cent. and are valued at Rs. 62,000 exclusive of treasure. The chief decreases are under precious stones, manufactured silk, coral and Indian cotton piece-goods. The only noticeable increases are under European cotton piece-goods, brass and copper and rice. Exports of silver also declined by Rs. 24,000.

The bridge at Dankar on the Spiti route to Shalkar or Shipki has been repaired and opens up the most direct route between Simla and Rudok. At the instance of the British Trade Agent at Gartok, experimental trade posts have been established at Patsar in Láhul and Sángla in Bashahr to register the imports of wool to Láhul in Kulu and to Garhwál *viâ* Bashahr, the volume of which is said to be considerable.

Joint Stock Companies.

Legislation.

445. The most important event of the year has been the passing of the Life Assurance Companies Act and the Provident Insurance Societies Act. The effect of the former is not yet apparent, except in the hurry of one company to divest itself of some of its more disreputable activities; but the mere reenactment of the latter has had immediate and beneficent results. The registration of new Provident Societies has ceased; the police are on the track of some of the existing companies; and many others are hastening into voluntary liquidation.

Number of companies.

446. Fifty-seven new companies with share capital have been registered during the year. No fewer than thirty-six of these are Provident Societies of the type for the regulation of which Act V of 1912 was passed. Five banks—some at least of which hardly appear to intend to do real banking; a European company for exploiting the rubber of cryptostegia grandiflora; a company for the supply of electric power in Lahore; a cotton-ginning factory established and run by a body of land-owners, and a sugar factory are the most important of the other new companies. Twelve companies have gone into liquidation or ceased to exist. Here again the Provident Societies bulk largest with seven collapses. There are now 194 companies at work, with a nominal capital issued of Rs. 290 lakhs, of which Rs. 194 lakhs are fully paid up. These companies are classified as follows:—Banking and loan 33, Insurance 43, Trading 64, Mills and Presses 36, others 18.

Capital.

447. Out of the paid-up capital of Rs. 1½ lakhs appertaining to the newly registered companies, Rs. 1,15,958 are to the credit of two companies, which formerly had their registered offices in the North-West Frontier Province and

have moved into the Punjab. Seventy-eight existing companies have increased their paid-up capital by Rs. 8¼ lakhs, but in three cases there was a reduction totalling Rs 483. The defunct companies had paid-up capital of Rs. 96,958. The net result is that the investments in joint stock companies have increased by Rs. 8½ lakhs.

Miscellaneous.

448. The number of companies limited by guarantee has increased by 1 to 23. No recourse was had to the provisions of Act IV of 1890. Thirteen societies were registered under Act XXI of 1860.

34.—Buildings and Roads.

General.

Administrative changes.

449. The Gujránwála Division was abolished on April 13th, 1911, and its Gujránwála sub-division transferred to the Lyallpur Division. Its Siálkot sub-division was broken up and the districts of Siálkot and Gujrát incorporated in the Gujránwála and Jhelum sub-divisions. From April 1st, 1911, the Jhang sub-division of the Lyallpur Division was abolished and the works in the Jhang district transferred to the Shahpur sub-division of the same Division.

Valuation of buildings.

450. The capital cost of the Imperial buildings, permanent, semi-permanent, and temporary, in charge of the Department, was Rs. 75,83,212 which were maintained at a cost of Rs. 92,076. Provincial buildings of a capital value of Rs. 3,14,26,400 were maintained at a cost of Rs. 4,17,206. The Provincial buildings, for which capital and revenue accounts are kept, are valued at Rs. 12,00,572 and cost Rs. 23,379 to maintain. The Provincial receipts of the Department amounted to Rs. 1,64,000, including some Rs. 63,000 from rents of buildings and Rs. 41,000 from sale of produce.

Explanation of figures.

451. In the following paragraphs the outlay on "original works" and "repairs," as given, does not include charges for establishment and tools and plant which are included in the totals under each major head. These totals, however, are themselves reduced by *minus* entries under "suspense" or "expended in England." The percentage of cost of establishment on expenditure was in the case of Imperial Military Works 17·36 per cent., for Imperial Civil Works 11·99 per cent., and for Provincial Works 17·57 per cent.

Total Outlay.

452. The total expenditure by the department on Public Works amounted to Rs. 61,53,299 distributed over Imperial Military Works Rs. 1,48,138, Imperial Civil Works Rs. 5,19,774, Provincial Civil Works Rs. [illegible]1,92,468, Contribution Works Rs. 2,34 893, and Durbar works Rs. 58,026.

Imperial Works.

Military.

453. The total outlay was Rs. 1,48,138, of which Rs. 60,167 was on original works and Rs. 64,084 on repairs. The works undertaken were buildings and roads in the Sargodha Remount Depôt, stables in the Jhelum Colony and supply houses on military routes.

Civil.

454. The total outlay was Rs. 5,19,774, of which Rs. 3,61,760 were expended on original works and Rs. 1,38,852 on repairs. The "Delville" and "Bemloe" estates at Simla were purchased during the year for the Imperial Government. Works completed or in progress include the Council Chamber at Viceregal Lodge, Simla; Post and Telegraph offices at Dharmsála, Fázilka (Ferozepore), and Chaura Maidan, Simla, and the Railway Parsonage at Lahore. The Telegraph Office, Lahore, was under alteration and a laboratory and residence was built for the Officer Investigating Camel Diseases and his staff at Soháwa (Jhelum).

Famine Relief.

No expenditure.

455. The province has been spared from the necessity for any outlay on famine relief.

PROVINCIAL WORKS

Civil Buildings.

Outlay.

456. The total outlay on original works was Rs. 18,92,006 and on repairs Rs. 3,69,013. The outlay on works was distributed over Land Revenue, Rs. 1,23,384; Agriculture, Rs. 53,378; Education, Rs. 4,46,680; Law and Justice, Rs. 93,056; Jails, Rs. 3,77,981; Police, Rs. 1,72,664; Medical, Rs. 3,29,268; Public Works Department and Miscellaneous Rs. 95,473; Monuments and Antiquities, Rs. 1,06,258; Administration (Miscellaneous) Rs. 72,506; Forests Rs. 10,350 and Burial grounds Rs. 11,008.

Works completed.

457. A house was purchased for the residence of the Deputy Commissioner, Gurgaon, and buildings at Rewári (Gurgaon) and Ráwalpindi for boarding houses for the Government schools.

The principal works completed were the District record room, Siálkot; tahsils at Ferozepore and Dera Ghází Khan; District Courts, Dharmsála; Assistant Commissioner's Court and residence, Sheikhupura (Gujránwála); Court rooms, Jullundur; additions to the Agricultural College, Lyallpur; Boarding-house, Siálkot; temporary High School, Dera Ghází Khan; workshop at the Central Training College, Lahore; extensions of the Chemical Laboratory, Government College, Lahore, and of the Normal School, Ráwalpindi; Engineering College, Rasul (Gujrat); Munsif's Courts at Lyallpur and Fázilka; Divisional Court house, Ludhiána; section translators' rooms at the Chief Court; tuberculosis ward, Montgomery Jail; water-supply for Central and District Jails, Multán; quarters for jail staff, Central Jail, Lahore; Police Stations at Sarfathu and Thikriwála (Lyallpur), Pattoki and Ganda Singhwála (Lahore), Nihal Singhwála, Fázilka and Makhu (Ferozepore), Haveli and Okara (Montgomery), and Dera Ghází Khan; police lines at Dharmsála; rest-houses at Bhawarna (Kángra) and Musakhel (Mianwáli), and residences for the Deputy Commissioner, District Judge, Revenue Assistant and Divisional Forest Officer at Dharmsála.

Works in progress.

458. Work was in progress on the District Court, Ludhiána; court-rooms and offices, Hoshiárpur; Agricultural Station, Gurdáspur; High Schools at Gujrát, Campbellpur (Attock), Dharmsála and Jullundur; Queen Mary's College; Lahore; Primary school block, Muzaffargarh; Borstal Central Jail, Lahore, Subsidiary Jail, Dharmsála; Reformatory School, Delhi; Police parade ground, Dharmsála; Police stations at Kángra, Shahpur, Jowála Mukhi and Sujánpur Tirah (Kángra), Shahkot (Jullundur), Chutiana (Lyallpur), Shorkot (Jhang), and Chaensa (Delhi); Vaccine Institute, Lahore; dispensary at Jaranwála (Lyallpur) and new Leper Asylum at Subáthu (Simla Hills); residence for the Executive Engineer, Multán, and for the Head Clerk to the Commissioner, Jullundur; rest-houses at Jagraon (Ludhiána), Firozpur-Jhirka (Gurgaon), Bankhandí (Hoshiárpur), Kalanaur (Gurdaspur), and Dera Ghází Khan.

Works at Delhi.

459. The greater part of the expenditure on antiquities was incurred in the Delhi Fort in connection with the Durbar. To make the place suitable for the occasion, the gardens in front of the Diwan-i-Am, Rang Mahal and Mumtaz Mahal were restored. The portion of the archæological area known as the Hayat Bakhsh Garden had been restored in previous years, the old water channels being reconstructed and the plots between them laid out in grass lawns and flower beds. The whole of the proposed works were now completed and the remainder of the area was laid out in a similar manner, the sites of the old Moghul buildings being marked by shrubberies. Water from an elevated tank constructed in 1910 was laid on to the marble channel which runs down the centre of the Palace buildings, and also to the fountains of the Hayat Bakhsh Garden, which played throughout the afternoon of the Garden Party. A low ornamental parapet of red sandstone was erected on the east wall of the Fort in place of an old, unsightly and flimsy iron one. The projecting balcony between the Samman Burj and Rang Mahal was adapted as a "jheroka", and here Their Majesties on the afternoon of the 13th December sat in State to watch the

Badshahi Mela which was being held below. The Mumtaz Mahal, formerly used as a Sergeants' Mess, was restored (modern additions being removed) and was converted into a Museum of Archæology.

King Edward Memorial.

460. An Executive Engineer of the department was on special duty during the year working out the preliminary estimates. The designs for the King Edward College and for the Research Institute were selected from the competitive designs submitted in response to an advertisment which had been inserted in the leading papers and engineering periodicals of the country. Steps were also taken towards acquiring the extra land required known as the Beef Market and Chajju Bhagat's Chaubara sites. The foundation stone was laid by His Honour Sir Louis Dane, G. C. I. E., on the 21st December 1911, but actual building work was not started until the formation of a special executive division for the works in April 1912.

Communications.

Roads.

461. The outlay on works amounted to Rs. 2,14,974 and on repairs to Rs. 10,88,445. Forty-six miles of feeder roads were completed in the Ambála, Lyallpur and Shahpur districts. A length of 19 miles of feeder road is under construction in the Ambála and Karnál districts as well as the roads Dera Gházi Khan-Chorutta, Rupar-Nálagarh (Ambála), and Tibri-Beas (Gurdáspur). The maintenance of 1,105·24 miles of Provincial metalled roads by the department cost Rs. 776 a mile and that of 124·42 miles by district boards Rs. 539. District boards spent Rs. 390 per mile on their own metalled roads, 1,384·77 miles in length. On unmetalled Provincial roads the department spent Rs. 148 per mile on 752·31 miles and district boards Rs. 16 a mile on 1,035·21 miles. On 18,972·98 miles of unmetalled district board roads the boards spent Rs. 8 per mile. The total length of roads outside municipal limits amounts to 2,614·43 miles metalled and 20,760·50 miles unmetalled.

The dák bungalows at Ludhiána and Karnál were completed and suspension bridges constructed over the Spiti river at Dankar and the Sutlej at Chaura and Jhakri (Simla Hills).

Ferries and boat bridges.

462. Boat bridges were maintained throughout the year at Wazírabad (Gujránwála) and Shahdara (Lahore), and for the cold weather at Khusháb (Shahpur) and Dera Gházi Khan: also four major ferries over the Jhelum and two over the Beas. A motor launch carries the mails and first class passengers over the Indus at Dera Gházi Khan, and a steam ferry is maintained there during the flood season.

Miscellaneous Public Improvements.

Outlay and Works.

463. The expenditure on Miscellaneous Public Improvements amounted to Rs. 7,82,897 on works and Rs. 71,265 on repairs. The Simla Hydro-Electric Scheme is making good progress. The head works, flume and tunnel through which it passes, pressure duct, all staff and Engineer's quarters, transmission lines from Simla to Chaba and Chair, and two small sub-stations have been completed. Good progress has been made with the reservoir, pipe track, power-house and main sub-station. The high tension mains, and the low tension net work, are well advanced. Contracts have been placed for the hydraulic equipment, power-house plant, supply and laying of cables, and for transformers and switch gear. In connection with the Simla Water Works Extension all staff quarters, the road to the pumping station at Chair and the gravity mains have been completed. The work on the construction of the weirs and pumping station is well in hand. Work was commenced in October 1911 on the construction of a masonry dam across the Nammal Gorge (Miánwáli), to hold up water to supply a canal which it is intended to construct for irrigating the country between the foot of the hills and the town of Miánwáli. The maximum height of the dam will be 105 feet, and the storage capacity is estimated to be 630 million gallons. A good deal of work was carried out in the new colony towns of Jaranwála and Tándliánwála (Lyallpur), Sillanwáli (Shahpur) and Chuharkhána (Gujránwála), and also at the new civil stations of Dharmsála and Dera Gházi Khan. An expenditure of Rs. 58,026 was also incurred on works connected with the

Coronation Durbar, of which Rs. 37,417 for works in the Punjab Provincial and Central Camps were debited to the Punjab Government and Rs. 20,609 were met by the Durbar grant from Imperial Funds.

PROVINCIAL EXPENDITURE.

464. The total Provincial outlay of the year amounted to Rs. 51,92,468, including Rs. 22,61,019 under Civil buildings, Rs. 13,03,419 under Communications, and Rs. 8,54,162 under Miscellaneous Public Improvements. Establishment absorbed Rs. 7,76,389 and tools and plant Rs. 82,210, but a credit of Rs. 84,731 is shown under "Suspense." Total outlay.

CONTRIBUTION WORKS.

465. The department expended a sum of Rs. 2,34,891 from funds supplied by municipalities, district boards, private sources or departments other than those already dealt with. The works included metalling roads at Lyallpur and from Chiniot to Kot Khudayár (Jhang), drainage works at Montgomery and Pattoki (Lahore), a police post at Ráwalpindi, alterations to the Pasteur Institute and Laboratory at Kasauli, stables at Lyallpur, a High School at Rúpar, alterations to the Punjab University buildings and the construction of a temple and dharmsala in the Aitchison College. The extension of the water-supply and drainage at Lyallpur also falls under this head. In certain cases works are paid for in part by Government and in part by contributing bodies. Outlay and Works.

466. Projects aggregating Rs. 29,91,881 were scrutinized for local bodies, and projects aggregating Rs. 10,02,433 prepared for them for works which will in most cases be done by the Government Engineers. Assistance to Local Bodies.

PRIVATE WORKS OF PUBLIC UTILITY.

467. Works of public utility aggregating Rs. 2,40,599 carried out by private individuals are reported. The most important are :—A pucca serai with shops at Hoshiárpur, costing Rs. 1,25,000, built by Chamba Ram, of Hoshiárpur; a pucca serai at Bhangála, Hoshiárpur district, costing Rs. 9,000, built by Rai Wazir Khan, Rajput of Bhangála ; a dharmsala and pucca well outside Nagori Gate, Hissar town, costing Rs. 6,000, built by the widow of Lala Chiranji Lal, Sahukar, Hissar ; a pucca tank at Balwári, Gurgaon district, costing Rs. 9,000, built by Ram Narain Das, Bairagi of Balwári ; a pucca dharmsala at Sohána, Ambála district, costing Rs. 10,000, built by Gopala and Hakim Rai, Khatris of Sohána ; another dharmsala at Sohána, costing Rs. 20,000, built by Rama Nand, Khatri, of Sohána ; a dharmsala and musafarkhana at Kot Radha Kishan, Lahore district, costing Rs. 7,000, built by Lala Behari Lal of Kot Radha Kishan. Works of Public Utility.

34 A.—Railways and Tramways.

RAILWAYS.

468. The mileage opened in 1911 includes on the North-Western system the section Shorkot Road to Jaranwála (88 miles) and the Khanpur-Chachrán line, which is owned by the Baháwalpur Durbar, (22 miles), also the Hissar extension of the Jodhpur-Bikaner Railway (31 miles), a total of 141 miles. Nor does construction in the future shew any sign of slackening as work was begun on the Sarai Kála-Havelián section of the line to Srinagar (only partly in the Punjab), the Jakhal-Hissar and Jullundur-Hoshiárpur branches of the North-Western Railway proper and the Jullundur Doab lines of the Southern Punjab Railway. On the other hand, the line from Jínd to Pánipat, projected by the Jínd Durbar, has been blocked for 18 months owing to difficulties about traffic from Jínd city station between the East Indian and Southern Punjab Railways. Similarly questions of the sphere of interest of metre and broad gauges have blocked the metre gauge line which the Patiála Durbar wishes to construct from Patiála to Jakhal and Hissar or Sirsa. To deal with the exceptional traffic of the Coronation Durbar at Delhi the North-Western Railway con- New lines.

structed a total length of 19 miles of railway of which 10 were double line, together with the requisite buildings and yards. The arrangements made proved adequate and all traffic was handled with promptitude.

Accidents.

469. No accident of a serious nature occurred on any railway in the Punjab in 1911, and the lines were free of any considerable damage by floods or rainfall.

Statistics of North-Western Railway.

470. Some idea of the vast organization of the North-Western Railway can be gathered from the following figures reported for 1911:—

Mileage open, 4,880.	Train mileage, 21¾ millions.	Capital, £54½ millions.	Gross earnings, £6 millions.	Working expenses, £3½ millions.	Net earnings, £2½ millions.

In 1911 alone the capital outlay was increased by over 2 millions sterling and on the vast capital expenditure of the system, practically one-quarter of which was incurred on military and unremunerative sections, the net earnings shew a percentage return of practically 4½ per cent. The net earnings of the Kálka-Simla Railway alone continue to fall short of the interest charges on the capital outlay by some £20,000 per annum.

Tramways.

Delhi Tramways.

471. Electric trams are operated in Delhi by the Delhi Electric Tramways and Lighting Company, Limited, with a mileage of 9½ miles of single track. The streets in which the lines are laid are—Sabzi Mundi, Kutab Road, Sudder Bazar, Khari Bowli, Katra Baryan, Lal Koah, Chowree Bazar, Esplanade Road, Chandni Chowk, Mission Church Road, Queen's Road and Koria Pool.

The car mileage run in 1911 was about 375,000 miles and some 2½ million passengers were carried. The Durbar traffic, however, had considerable influence on the figures.

Patiala Monorail.

472. A length of 15 miles of tramway has been constructed at a cost of Rs. 1,94,000 by the Patiála State on the monorail system from Sirhind Station, on the North-Western Railway Main Line, north to Morinda in the Ambála district. The line was opened on February 1st, 1907, and earns some Rs. 2,500 per mensem, against expenses of Rs. 2,000 per mensem. The line is operated by mule traction and only carries passengers.

Jagadhri Light Railway Company.

473. A light railway on the 24-inch gauge, 3·32 miles in length, connects Jagadhri Town (Ambala) with Jagadhri Station on the North-Western Railway, Main Line. The line was constructed and is worked by a limited liability company, the shares in which are held locally. The moving spirit in the enterprise is Rai Bahadur Lala Joti Parshad, Rais of Jagadhri. The railway was opened for traffic on August 11th, 1911, by His Honour Sir Louis Dane and both passenger and goods traffic are handled. It is reported that up to December 31st, 1911, the capital outlay was Rs. 1,05,600; the train mileage run from August 11th to December 31st, 1911, was 6,316 miles, the expenditure Rs. 6,985 and the traffic earnings Rs. 7,995. The railway is worked by steam, and was constructed under the Indian Tramways Act (XI of 1886). So satisfied are the promoters with the result of their enterprise that an extension to Chachrauli, Sadhaura and Kala Amb is contemplated.

35.—Irrigation.

General.

General results.

474. The total area irrigated in British districts and Native States by canals in charge of departmental officers is 8,269,233 acres, to which must be added some 62,659 acres irrigated in the Jínd State by the State authorities from water afforded by the Western Jumna Canal. Generally speaking, the conditions

of the year were favourable to irrigation on perennial canals, which show excellent results. On the inundation canals the low supplies in the rivers and poorness of the rainfall have reduced the area of irrigation, but in the circumstances the results obtained are gratifying.

On the eight Major Canals in operation a capital outlay, direct and indirect, of Rs. 18,91,093 was expended, bringing up the total cost of these canals to Rs. 11,62,22,814, upon which a nett revenue of Rs. 1,87,53,983 was obtained, giving a profit of 16·13 per cent. The gross interest charge on the above capital is taken at Rs. 37,83,076, and the nett profit after paying interest amounts to Rs. 1,49,70,907.

On the two Minor Canals for which capital accounts are kept the total capital cost is now Rs. 5,75,658, upon which a nett loss of Rs. 14,726 was experienced. Including these canals, the nett profit from all Imperial Minor Canals (which are not classed as productive) was Rs. 6,58,490.

On the two Provincial Canal systems the nett loss during the year was Rs. 14,500.

On the canals of the Triple Project Rs. 1,43,88,916 were expended on capital account in direct and indirect charges, upon which the annual interest charge accruing is calculated as Rs. 19,23,109. The total capital expenditure on these canals now stands at Rs. 6,50,39,936.

The gross Imperial capital now invested in the Punjab Canals is Rs. 18,18,38,408, or over £12 millions sterling. The details for each canal are given in subsequent sections.

Major Works—Canals in operation.

Western Jumna Canal.

475. In common with the other canals of the province, the failure of the monsoon and poor winter rain occasioned a largely increased demand for canal water, for which supplies were about average and were run for a longer period than ever before. It was not possible to close the canal during the year. The fodder famine led to an increased resort to fodder crops, and these crops and the supply of water free of cost to village tanks kept the cattle alive. The kharif area was matured with great difficulty; jowar and particularly cotton giving anxiety throughout. The rabi area matured was much larger than usual. The total area irrigated, exclusive of 62,659 acres on the Jind distributaries, was 712,791 acres, which in the circumstances is not particularly high and is 51,689 acres less than the maximum area of design. For this result the unusual nature of the kharif harvest is responsible. Inclusive of a capital expenditure during the year of Rs. 47,784, the total cost of the canal to the Imperial Government is now Rs. 1,74,38,243. Upon this a nett revenue, inclusive of indirect income from land revenue due to canal irrigation, of Rs. 13,55,317 was obtained, giving a percentage of 7·77 on the total outlay. Against this profit an interest charge on capital outlay of Rs. 5,64,916 is debited. The nett revenue received by the Patiála State on their channels from the Sirsa Branch amounted to Rs. 1,34,827, or 11·76 per cent. on the capital outlay. The profit to the Jínd State from the working of their distributaries was Rs. 1,12,153. This improvement is due to the inclusion of "owner's rate" in the account. The supply to the State has now been raised from 343 to 353 cusecs.

Navigation receipts amounted to Rs. 38,792 and maintenance charges to Rs. 5,661, but practically the whole of the income is derived from rafting timber; principally in the head reach Tájawála to Abdullapur. Of the total, receipts from boat traffic were Rs. 1,028 only and maintenance cost Rs. 5,239. The number of boats is now only 32, and it would be a great advantage if the fleet were entirely to disappear, as the canal is unsuited to navigation.

The irrigation staff of this canal were entrusted with the task of constructing and controlling all irrigation channels required at Delhi for the Durbar and of constructing and maintaining all surface drains. This task coinciding with a year of drought made the past year an eventful and exacting one for the staff.

Surveys were carried out to investigate possible improvements, either by canalising the existing main line or by making fresh head works lower down the river and constructing a new main line. The final projects are now being worked out. The success of the silting reach at Indri has been complete, and it is hoped in time to reclaim all the swamped area in this way. The Delhi end of the Saadat Khan Canal has been filled in and replaced by a masonry conduit along the Queen's Road. The canal will gradually be contracted along its entire length. There is keen competition for the valuable sites rendered available in Delhi by this improvement.

The experience gained on the Chautang proves that a kharif canal from the Jumna will not pay, as the early and late supply is too uncertain to admit of any but the poorest crops being grown.

Sirhind Canal.

476. On the Sirhind Canal the great drought in the kharif and insufficient rainfall in the rabi led to a very large demand for canal water for areas that in more favourable seasons do not require it. The demand appears to have been met without difficulty; but the canal was only closed for two days. The area irrigated was 475,145 acres in the kharif and 1,134,313 acres in the rabi. The total, 1,609,458 acres, is nearly double the average of the previous triennium ending 1910-11, which was 857,706 acres. The capital expenditure during the year was Rs. 83,378 in various small works. Of this, Rs. 76,871 were spent on Imperial Branches, and the Imperial capital invested now amounts to Rs. 2,51,55,196. Upon this a nett revenue of Rs. 20,61,099 was obtained, equivalent to 8·19 per cent., against which an interest charge of Rs. 8,13,319 is set. On the Native States branches the profit earned was 7·31 per cent. No land revenue is at present credited to the Sirhind Canal account as being due to irrigation. The navigation traffic amounted to 24,917 tons and the receipts from tolls and raft dues to Rs. 16,531. Both are increases on the figures for the previous year. Maintenance charges under navigation absorbed Rs. 10,250.

The Siswan superpassage causes anxiety, but it is hoped that the closures necessary for works to secure its stability may be restricted from a month to a fortnight in future. Schemes to prevent percolation from the channels of this canal are in the experimental stage, but the estimates for the works contemplated amount to Rs. 10 lakhs. A scheme to extend irrigation in the Sirsa tahsil is being taken up and a survey is in hand for a channel from the Bhatinda Branch.

Upper Bari Doab Canal.

477. On the Upper Bari Doab Canal the dry summer led to an intense demand, to meet which in the kharif a low river was experienced. In the rabi the river was favourable. The canal was run without intermission, and heavy shingle deposits resulted. In consequence of the enforced economical use of the water the duties were 90 acres in the kharif and 223 in the rabi, which are exceptionally high figures. The area irrigated in the kharif was 496,191 acres and in the rabi 660,617 acres. From these areas remissions of assessment were given on 48,097 acres. The total irrigation, 1,156,808 acres, and the rabi area are the highest yet recorded on this canal. Expenditure on capital account amounted to Rs. 4,33,741, bringing the total for the canal to Rs. 2,14,49,274. Rs. 2,30,770 were debited under "suspense" as the year has been a heavy one in the workshops. Under "works" the expenditure was Rs. 2,02,971, and was incurred among other works upon lining two miles of the Main Branch Lower near Amritsar and upon the new Niaz Beg distributary, which will be opened in kharif 1912. Upon the capital outlay a nett revenue of Rs. 24,44,337 was realised, equivalent to a percentage of 11·40,

which is about the present normal. The interest charge is Rs. 6,97,453. A new division was formed during the year, consisting of the Kasur Branch, Upper and Lower, and the Sobraon Branch, to relieve the Head-Works Division. The change has resulted in an increase in efficiency. A determined effort to cope with water-logging is being made on this canal. Extensive lining works are in progress, and the important Hudiara drainage is being deepened and graded to provide a better outfall.

A new foundry is under construction at the Central Workshop and the new steel workshop has been brought into use. The outturn of iron castings from the foundry reached the record figure of 13,756 maunds. The year has been an extremely busy one in the workshops; iron and steel work being completed for head works on the Upper Chenab, the Lower Chenab, the Lower Jhelum, the Lower Bari Doab and the Upper Jhelum Canals. The rates charged for the outturn have been lowered, and the manufacture accounts closed with a credit balance of Rs. 2,725. The Superintendent, as Boiler Inspector, inspected locomotives and portable engines on the various canals as became necessary.

Lower Chenab Canal.

478. On the Lower Chenab Canal the year was a favourable one. The demand for water was good and the supplies were sufficient in the kharif, but in the rabi were insufficient in December, February and March. The area irrigated in the kharif was 710,931 acres, of which 87,308 failed, and in the rabi 1,623,159 acres, with 25,743 acres of failure. The total area is well in advance of the average for the previous three years. Of the total irrigated area, 419,755 acres were in old proprietary and 1,914,335 acres in colony villages. The kharif duty was 78 and the rabi duty 199. These results are on the whole very favourable. A large number of capital works are in progress at the head works with a view to keeping the canal clear of silt, which in recent years has given cause for great anxiety. In all Rs. 11,23,742 were spent on capital account, bringing up the total cost of the canal to Rs. 3,01,72,899: upon this a nett revenue, including land revenue due to irrigation, of Rs. 1,02,78,146 was obtained, equivalent to a percentage of 34·06. Enhancements of the land revenue demand have during the year largely increased the indirect revenue of this canal. The accummulated nett profits now exceed the cost by Rs. 3,69,40,162. The interest charge is Rs. 9,82,780.

Lower Jhelum Canal.

479. On the Lower Jhelum Canal a fairly large kharif area was sown, but great damage was done at the beginning of the season by grass-hoppers, and the ravages of boll worm necessitated a remission to the extent of 34 per cent. of the cotton crop. The rabi season was entirely favourable. The area irrigated in the kharif was 232,030 acres and in the rabi 567,619, of which 98,165 acres in both harvests failed. Of the total area, 373,773 acres were in old proprietary villages and 425,876 in colony villages. The outlay on capital account during the year was small, and the total cost of the canal was reduced to Rs. 1,61,61,606, owing to recoveries from cultivators of the cost of water-courses and to larger issues from stocks. Upon this a nett revenue, including land revenue due to canal irrigation, of Rs. 17,11,569 was realised, giving a percentage of 10·59. The date for the completion of the canal is now fixed as March 1913, but work on the Shahpur Branch is at present in abeyance and the date will have to be extended again.

Upper Sutlej Canals.

480. The early falling-off of the river with heavy silt deposits and consequent early closing of the canals reduced the irrigated area on the Upper Sutlej Inundation Canals. The total irrigation was 159,973 acres in the kharif and 106,040 acres in the rabi harvest. The capital cost of the system is Rs. 17,49,503 upon which a nett income of Rs. 2,60,797 was realised, giving a return of 14·91 per cent. The interest charge is Rs. 56,109. The Katora flowed 137 days, the Khanwah 182, the Upper Sohag 155, and the Lower Sohag 157.

Sidhnai Canals.

481. On the Sidhnai system the kharif irrigation was good, while the rabi was below average owing to a low river. The Ravi ran dry at the end of October and was dry all the winter, except for three weeks in February, when a

freshet saved the rabi crop from further loss. The canals were in flow for 212 days. The year was no more than fair. The total irrigated area was 119,674 in the kharif and 129,896 in the rabi: of this 31,456 and 14,350 acres, respectively, failed. The capital cost of this system is now Rs. 13,37,469, upon which a nett income of Rs. 5,05,820 was obtained, inclusive of land revenue due to irrigation. The canal thus returns a percentage of 37·81 on its cost and is still the most remunerative canal in the province. The interest charge is Rs. 43,993.

Indus Canals.

482. On the Indus Inundation Canals excellent results were obtained, through the Nur Dhundi and Kadra Canals remaining open during the winter. On the other hand, the westerly set of the river silted up the heads and caused the Kasturi and Dhingana to cease running for a short time in July. The total irrigated area was in kharif 183,890 acres (including 51,228 acres failed) and in rabi 94,717 acres (including 11,474 acres failed). The annual total is the second highest on record. On capital account Rs. 2,25,210 were disbursed on extending the Manka Canal and on the Talai Project, which absorbed Rs. 1,80,282, chiefly on works on the Kadra Canal. The nett income obtained was Rs. 1,36,898, giving a return on capital of 4·96 per cent. The interest charge is Rs. 87,545. The working of the last triennium resulted in an average annual loss of Rs. 1,90,525, and the working of the past year has been unusually successful. A good deal of the increase in profit is due, however, to reduced working expenses.

Imperial Minor Works with Capital Accounts.

Shahpur Imperial Canals.

483. The insufficient supply in the river and failure of the monsoon combined to reduce irrigation on the Shahpur Canals. The areas irrigated were 8,404 acres in the kharif and 14,462 in the rabi, of which 4,648 acres in both harvests failed to mature chiefly owing to the short supply. The capital outlay on this system is Rs. 2,15,914, and the year's working shows a loss of Rs. 778.

Ghaggar Canals.

484. On the Ghaggar Canals probably the worst year on record was experienced. The Northern Canal flowed for 46 days and the Southern for 32 days and the supplies never reached the minimum at which the Bikáner State participates. The total irrigation was no more than 3,902 acres in the kharif and 2,691 in the rabi, and there was none whatever in Bikáner. The failed area was 136 acres. Capital outlay to the extent of Rs. 15,942 was spent on improving distributaries, making the total outlay Rs. 3,59,744. The year's working resulted in a loss of Rs. 13,948 or 3·88 per cent. on the capital. The Bikáner State has expended Rs. 3,84,319 in capital on the canals, and during the year spent Rs. 9,101 on maintenance without any return. A scheme to alter the regulators and initiate floodings as soon as the Ghaggar rises was opposed by villages adversely affected and cannot be carried out in its present form. A project for increasing the storage capacity of the Otu lake is in hand, and in spite of the intricate nature of the problem, it is hoped that a workable scheme may be evolved.

Imperial Minor Works with Revenue Accounts only.

Lower Sutlej Canals.

485. In spite of difficulties with the river, experienced on two of the canals, the year was not a bad one. Hajiwah flowed for 124 days, Mailsi 221, Muhammadwah 174, and Bahawalwah Lodhran 116. The kharif area irrigated was 118,274 acres and the rabi area 124,603. The failed area for the year was 44,094 acres or 18 per cent., a creditable figure, indicating good distribution. The nett working of the year shows a profit of Rs. 1,56,709. The lowness of the figure is explained by heavy expenditure on improvements and reduced supplies during the year. The Mailsi and both Jamwah Canals have been widened to permit of all outlets running full discharges during floods and to work down silt; a partial amalgamation of the Muhammadwah with the Bahawalwah Lodhran Canal has been carried out: and the number of outlets

of masonry or of steel or iron tubes has been increased. Some progress has been made with the substitution by the zamindars of proprietary "minor" distributaries for long parallel water-courses with considerable improvement in distribution.

Chenab Canals.

486. On the Chenab Canals the river was high up to July, but afterwards gave insufficient supplies for the keen demand. The high river damaged the head of Wali Muhammad Canal. These causes combined with lack of rain reduced the rabi area. The total irrigation was 100,252 acres in the kharif (33,753 failing) and 82,319 in the rabi (9,958 acres failing). The nett revenue of the year was Rs. 2,16,992 which is about normal. The new distribution scheme (chakbandi) carried out on the Gajjuhatta Canal has been a great success, and a similar scheme is being carried out on the Sikandarabad. The transfer of the Matithal Canal irrigation to the Sidhnai system has been sanctioned. This and other improvements in the canals have been taken up in view of the effect of the triple project on supplies in the river.

Muzaffargarh Canals.

487. The rivers supplying the Muzaffargarh Canals were low throughout the year, especially in July and August when the kharif demand was keen, and distribution caused much trouble, as little assistance was obtained from the rainfall. The rivers rallied during September, and three of the Indus Canals ran well on into the winter. It is doubtful whether these winter supplies should be made use of as they accentuate the water-logging, which has begun to be seriously felt in the district. The kharif irrigation was low at 153,835 acres with 27,753 failed, but the rabi crop was a record one of 223,527 acres, of which 11,142 failed. The total failure of the year was 10·3 per cent. and the rabi figure fell to the record of 4·98 per cent. The nett revenue of the canals was Rs. 2,99,515, a very satisfactory figure for the system, due in large measure to decreased expenditure. On these canals the new distribution scheme (chakbandi) has been completed and the increase in duty shown by every canal is proof of the success of the undertaking. A change in the system of checking failed crops is in contemplation, as it is proposed that the Deputy Commissioner should accept the figures of the Canal Daroghas in certain cases, subject to appeal to a Revenue Officer.

Provincial Canals.

Shahpur and Ravi Provincial Canals.

488. The poor supply on the Shahpur Provincial Canals greatly reduced the area irrigated, which amounted to 13,392 acres in the kharif and 7,288 acres in the rabi, of which 1,286 acres in all failed. The year's working shows a loss of Rs. 9,343, excluding a debit of Rs. 1,612 for expenditure on surveys in connection with the Banhwa and Kahan torrents in Jhelum district. Similar causes affected the Ravi Canals, which only irrigated 4,554 acres in the kharif and 4,687 in the rabi, with 768 acres of failure. The canals suffered from heavy silt-deposits. The year's working involved a loss of Rs. 3,535. The Nikki and Sukhrawa Canals ran 124 days and the Deg 32, but the Jherku did not flow at all.

Miscellaneous.

Rangoi Canal.

489. The Rangoi Canal of the Hissar District Board, which has for some years been in the charge of the Department, was made over to the owning body on April 1st, 1912. During the year the canal was thoroughly overhauled at a cost of Rs. 9,391, but it only ran one day and 57 acres of irrigation only were registered. The water-rate charges are included in the fluctuating land revenue assessments.

The Triple Project.

Upper Jhelum Canal.

490. The Upper Jhelum Canal was started in 1904-05. The object of the canal is to carry surplus water from the Jhelum to replenish the supplies in the Chenab, but it is also designed to irrigate 344,960 acres annually in the

Gujrat district. The canal takes off from the left bank of the Jhelum at Mangla Fort in Kashmír, follows the course of the Jhelum on the north face of the Pabbis to the head works of the Lower Jhelum Canal at Rasúl in Gujrát district, and then strikes across that district to the head works of the Lower Chenab Canal at Khanki. The Gujrát Branch of the canal on the right of the main line will irrigate the western portion of Gujrát district. The direct capital outlay during 1911-12 was Rs. 69,89,561, bringing up the total direct outlay to Rs. 2,51,95,637 out of the revised estimate of Rs. 4,29,40,282. The feature of the construction of this canal is the number, size and cost of the torrent works which have continually provided difficult problems. Since January, night and day work, with a double staff and double shifts, has been introduced to shorten the delay before the canal can be opened, Very great progress has been made during the year, and the great Mangla Cut and the Head Regulator are the only works now likely to cause delay. On the Main Canal ¾ths of the earthwork is complete, 1,970 lakhs of cubic feet of excavation having been carried out during the year. Much of the increased progress in earthwork is due to the employment of mechanical means. It is now hoped to complete the main line by April 1914.

Stone quarries at Taraki (Jhelum) are being worked in connection with the Upper Jhelum Canal, and during the year 59½ lakhs of cubic feet of quarry material were despatched to the five participating canals, *viz.*, the Upper and Lower Jhelum, the Upper and Lower Chenab, and the Lower Bari Doab Canals.

Upper Chenab Canal.

491. The Upper Chenab Canal, the construction of which began in 1906-07, is designed to irrigate 648,368 acres annually, chiefly in the Gujránwála district, and to carry supplies to the Ravi for the use of the Lower Bari Doab Canal. The canal takes out from the left bank of the Chenab at Merála in Siálkot district and crosses the Gujránwála district to the Ravi at Balloki on the Lahore-Montgomery border. The Nokhar Branch takes out on the right and the Raya Branch on the left, the latter irrigating in Siálkot district. The direct capital outlay during 1911-12 amounted to Rs. 34,40,959, bringing up the total direct outlay to date to Rs. 2,65,15,300, out of the revised estimate of Rs. 3,61,31,583 for the work. The earthwork of the Main Line Upper (2,562 lakhs cubic feet) has been completed ; while on the Main Line Lower and on the first 35 miles of the Raya Branch little remains to be done. The details of the Nokhar Branch, which now alone remains, have been settled.

The head works, the Head Regulators on the Main Line, Upper and Lower, and on the Raya Branch, together with all buildings on these channels, have been completed. The important embankment, diverting the waters of the Deg nullah in Sharakpur tahsil of Gujránwála, was sanctioned in July and practically completed by the end of the year ; thus making possible the opening of the Main Canal on April 12th, 1912, surplus water being taken down the diversion. Water can also be passed down the upper part of the Raya Branch, where the Satrah nullah can be used as an escape. On the Main Line Lower distributaries 424 lakhs of cubic feet of earthwork have been excavated on 12 of the 13 distributaries so far sanctioned and masonry work is well advanced. On the Raya Branch two distributaries have been completed and work on three more has been started.

Lower Bari Doab Canal.

492. The Lower Bari Doab Canal is in direct continuation of the Upper Chenab Canal, from which it will derive its main supplies. It is designed to irrigate annually 877,908 acres in the Ganji Bar of the Montgomery and Multán districts, most of which is Government waste land. The head works are on the Ravi at Balloki in Lahore district, where the cold weather supply of that river is generally inappreciable. The head works consist of a level crossing designed to pass on the Upper Chenab Canal supply, assisted by any water there

may be in the Ravi, but at the same time to discharge down the river the monsoon floods, which are estimated at a maximum at 200,000 cusecs. Construction began in 1907-08. The direct capital outlay in 1911-12 amounted to Rs. 37,46,795, bringing the total direct outlay up to Rs. 1,19,23,123 out of the revised estimate of Rs. 2,16,69,940. As the Ravi runs at Balloki in a very tortuous channel, the head works have been constructed on a promontary within one of the bends, and the river is being led in a diversion over the level crossing by training works up and down stream. These training works cut off three bends of the river—one up and one down stream, and that on which the crossing is built. During the year the upper training works have been completed, and the bulk of the subsequent monsoon flood was successfully passed over the level crossing. The training works downstream have not yet been taken in hand. Generally speaking, up to the end of the financial year under review the head works had been completed, with the exception of the steel superstructure and gates and gearing; the Main Line was completed as regards masonry works, with the exception of three syphons and three bridges, as also was the earthwork, with the exception of the portion crossing the river Rávi and the lengths reserved for jail labour and the mechanical excavators. Earthwork on distributaries was well in hand, and it is confidently expected that the canal will be sufficiently far advanced to enable irrigation to be commenced from the kharif of 1913. In the excavation of the Main Line the hearty co-operation of the Jail Department has been obtained, a gang of 400 men being steadily employed. So far 190 lakhs of cubic feet have been excavated by jail labour, and the quality of the work has been excellent. It was finally decided in June to make the proportion of kharif irrigati n one to one and-a-half rabi. The distributary channels had in consequence to be redesigned, and work on these channels did not begin until November. Labour was, however, plentiful owing to distress in the south-east Punjab and Rájpútána. Special exertions were made to get out the designs of works quickly enough to keep the labour employed.

Following the demarcation of rectangles by the Survey Department referred to in paragraph 258, a level survey over the lines of the rectangles was carried out by the Canal Officers. Accurate maps are now under preparation of the commanded area lying east of Montgomery, upon which the water-course schemes will be designed.

Sutlej Canal survey.

493. Upon the completed survey operations for the Sutlej Canal scheme various alternative projects were submitted informally to the Inspector-General of Irrigation. Further information called for by that officer was collected and recorded during the year, and is now under consideration by the Chief Engineer. Sutlej Canal Survey.

Canals in charge of District Officers.

494. During the year the Changarwan Canal in the Dasúya tahsil of Hoshiárpur was included under schedule II of the Punjab Minor Canals Act, (III of 1905). The Najafgarh drain was successfully worked by the Deputy Commissioner of Delhi. The Rangoi Canal, as already explained, has now been transferred from the Irrigation Department to the district board of Hissar. Difficulties have again arisen in regard to the obligation of the Alwar Durbar to take measures to secure to the Gurgaon villages in the Fírozpur tahsil their proper share of the floods passing down the Landoha stream. The working of the bunds in Gurgaon and the Sarusti Canal in Karnál was satisfactory. The case of the Shahnahr Canal in Hoshiárpur is being taken up, and a survey as a basis for remodelling and improvement is being carried out by an officer of the Irrigation Department. Minor Canals Act.

The working of the Grey Canals during the year can scarcely be regarded as entirely satisfactory. The question of their improvement is complicated by their possible eventual absorption in the Harike weir project. This latter project also affects the eventual destinies of the Kitchin Canal system on the other bank of the Sutlej. The state of the Kitchin Bund Canals has during the year formed the subject of a special reference to Government. Remodelling and alterations are being carried out which may result in a renewal, temporary at any rate, of the extensive irrigation done by the canal in the past.

CHAPTER V.

REVENUE AND FINANCE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Land Revenue.—Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1911.

Canal Revenue.—(1) Administration Report of the Irrigation Department, Punjab, for the year 1911-12.

(2) Revenue Report of the Irrigation Department, Punjab, for the triennial period 1908-09 to 1910-1911.

Excise and Opium.—Report on the Excise Administration of the Punjab for the year 1911-12.

Stamps.—Note on the Stamp Statements of the Punjab for the year 1911-12.

Income Tax.—Report on the Income Tax Administration of the Punjab during the year 1911-12.

Forests.—Progress Report of Forest Administration in the Punjab for 1911-12.

Provincial Revenues.—Budget for 1912-13 and Financial Statement, published in the *Punjab Gazette.*

Local Funds —Report on the Administration and Accounts of the District Boards in the Punjab for the year 1911-12.

Municipal Revenues.—Report on the working of Municipalities in the Punjab during the year 1911-12.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistics of British India, Part III—Commercial Services.

Part IV (*b*)—Finance and Revenue.

Part VIII—Local Funds.

Salt.—Report on the Administration of the Northern India Salt Revenue Department for the official year 1911-12.

36.—Gross Revenue and Expenditure.

Gross revenue.

495. The revenue raised in the province and controlled by the Local Government consists of the income of all Civil Departments, except the Railways, Post Office, Telegraph, Opium and Salt Departments. The excise revenue from opium, however, as apart from the recoveries of the cost of Government opium for the Opium Department, is part of the excise revenue of the province, and as such is under the control of the Local Government. The revenue of the Salt and Opium Departments is essentially revenue raised in the province, and is included in this review, in which, on the other hand, the income of the Railways, Post Office and Telegraphs is left out of account. The income of the district boards and municipalities is not incorporated in the public accounts, and will be dealt with separately. As thus explained, the revenue raised in the Punjab amounted in 1911-12 to over eight crores of rupees, of which, under the system of the provincial settlement explained in paragraph 93, practically four crores are credited to the provincial section of the accounts. Of the total sum raised, the proportion recovered under land revenue, including that due to irrigation, was 43·25 per cent. Land revenue assessments, however, only contributed 34½ per cent., as 8¾ per cent. came from other demands classed in the accounts as land revenue. The other principal receipts were irrigation 27·50 per cent., excise 8 per cent, stamps 6·50 per cent., salt 4·50 per cent., income-tax 2 per cent., forest 1·50 per cent.

and miscellaneous 1 per cent. No other head contributed as much as 1 per cent. of the total income :—

Source of revenue.	1910-11.			1911-12.		
	Total, Rs. 1,000.	Provincial.		Total, Rs. 1,000.	Provincial.	
		Share.	Amount, Rs. 1,000.		Share.	Amount, Rs. 1,000.
Land Revenue	2,97,81	Three-eighths	1,11,68	3,47,92	Half	1,73,96
Opium	5,49	*Nil*	...	6,23	*Nil*	...
Salt	35,92	*Nil*	...	38,16	*Nil*	...
Stamps	48,92	Half	24,46	52,57	Half	26,29
Excise	56,95	Half	28,47	64,00	Half	32,00
Income tax	15,60	Half	7,50	16,22	Half	8,11
Forest	12,18	Half	6,09	13,10	Whole	13,10
Registration	3,00	Whole	3,00	3,16	Whole	3,16
Tribute	2,77	*Nil*	...	1,48	*Nil*	...
Interest	3,22	Various	2,88	2,93	Various	2,58
Law and Justice—Courts ...	4,36	Whole	4,36	4,35	Whole	4,35
Law and Justice—Jails ...	2,82	Whole	2,82	3,41	Whole	3,41
Police	5,81	Whole	5,81	1,80	Whole	1,80
Education	3,72	Whole	3,72	3,64	Whole	3,64
Irrigation—Major Works ...	1,99,89	Three-eighths	74,96	2,13,08	Half	1,06,54
,, Minor Works ...	9,24	Various	62	7,99	Various	56
Civil Works	5,73	Various	4,97	6,93	Various	6,20
Miscellaneous	11,82	Various	7,89	10,91	Various	9,70
All other heads	6,15	Various	3,94	6,05	Various	3,98
Total ...	7,31,40		2,93,17	8,03,93		3,99,33

The changes in the provincial share shewn for the past year in the above statement and in that given in the following paragraph are due to the new provincial settlement. The receipts under the various principal heads are separately noticed in subsequent paragraphs of this chapter. The increase shewn under opium is due to the increase in the sales of Government opium, which is ousting other descriptions in the market. The decrease under tribute is explained by the permission accorded to the Kapurthala State to pay tribute into the Bahraich treasury of Oudh instead of into the Jullundur treasury as before. Under Irrigation Minor Works the provincial income is that derived from the provincial canals in Shahpur and Montgomery and from petty works in the charge of Deputy Commissioners. The income from the minor canal works, which are classed as Imperial, is wholly Imperial. The expenditure on these minor works also is treated in the same manner. Civil Works again are either provincial, in charge of Deputy Commissioners or departmental officers as the case may be, or Imperial. In the former case the income and expenditure are wholly provincial, and in the latter wholly Imperial. The provincial income under interest is derived from loans to municipalities and under the Land Improvement and Agriculturists Loans Acts and from other miscellaneous loans. Under Miscellaneous the most important item is contributed by the receipts of the copying department, the transactions of which are now being included in the general accounts.

Gross expenditure.

496. The gross Government expenditure, excluding expenditure of the Military, Railways, Post Office and Telegraph Departments and capital expenditure on canals is as follows :—

HEADS OF EXPENDITURE.	1910-11.			1911-12.		
	Total, Rs. 1,000.	Provincial.		Total, Rs. 1,000.	Provincial.	
		Share.	Amount, Rs. 1,000.		Share.	Amount, Rs. 1,000.
Land Revenue	46,81	Whole	46,81	47,76	Whole	47,76
Salt	4,48	*Nil*	...	4,82	*Nil*	...
Stamps	1,63	Half	81	1,77	Half	89
Excise	1,69	Half	84	1,71	Half	86
Income-tax	11	Half	5	11	Half	5
Forests	7,41	Half	3,70	7,64	Whole	7,65
Registration	1,16	Whole	1,16	1,20	Whole	1,20
General Administration ...	14,29	Various	11,33	18,33	Various	13,65
Law and Justice—Courts ...	40,94	Whole	40,94	42,18	Whole	42,18
Law and Justice—Jails ...	11,09	Whole	11,09	12,24	Whole	12,24
Police	56,50	Whole	56,50	58,57	Whole	58,57
Education	22,84	Whole	22,84	23,27	Whole	23,27
Medical	14,20	Whole	14,20	21,20	Whole	21,20
Political	6,13	*Nil*	...	6,29	*Nil*	...
Scientific	7,78	Various	6,66	8,90	Various	7,75
Pensions	17,68	Whole	17,57	18,75	Whole	18,70
Stationery	7,55	Whole	7,55	7,34	Whole	7,18
Irrigation—Major Works ...	1,25,96	Three-eighths	47,24	1,36,42	Half	68,21
" —Minor Works ...	11,28	Various	81	11,17	Various	1,07
Civil Works	55,71	Various	51,28	67,90	Various	62,70
All other items	14,40	Various	7,75	15,68	Various	7,66
Total ...	4,69,64		3,49,13	5,13,25		4,02,79

The expenditure, not charged to revenue, on Major Irrigation Works amounted to Rs. 1,47,45,000. The various works are detailed in Chapter IV.

37.—Land Revenue.

497. Owing to the circumstance that the agricultural year does not correspond with the financial year, the figures for land revenue receipts given above do not agree with those given in the land revenue report (see paragraph 250). The agricultural year ends on September 30th and the financial year on March 31st following. Thus the total realizations for the past agricultural year are given in the land revenue report as Rs. 3,13,46,000, (ordinary revenue, fixed and fluctuating, Rs 2,88,51,000, other demands Rs. 24,95,000), while for the financial year the treasury figures are Rs. 3,47,92,000 as above. The discrepancy is in the main due to the large increase between September 30th and March 31st in the amount received on account of sales of peasant grants in the Lower Chenab Colony. In practice a calculation is annually made of the amount of land revenue "due to irrigation." The sum arrived at in the case of Major Works is deducted from the income actually shewn in the above accounts under the land revenue head, and is given as a separate item under "Irrigation—Major Works." The sum so calculated is rapidly rising with the extension of canal irrigation and re-assessment of the land revenue demand on the older canals. In 1910-11 it amounted to Rs. 34,62,000 and in 1911-12 to Rs. 58,25,000. With the deduction of this item the land revenue receipts of the latter year as shewn in the general accounts work out to Rs. 2,89,67,000. Two recent changes affect the land revenue receipts. The income from the sale of sites in Colony towns, formerly credited as land revenue, is now treated as "Miscellaneous," and in anticipation of the passing of the Colony Bill the income from rents in Colony village sites has ceased.

38.—Irrigation.

General results.

498. The working expenses of the Major Canals in operation (less refunds, Rs. 22,022) amounted to Rs. 83,56,458, while the direct income from water-rates and miscellaneous receipts was Rs. 2,12,85,938. A further sum is credited to the profit and loss account of the canals as an indirect receipt from land revenue "due to irrigation" amounting to Rs. 58,24,503. This income and expenditure are shared equally by the Provincial and Imperial Governments.

On the Minor Imperial Canals the working expenses (less refunds, Rs. 660) amounted to Rs. 9,41,229. Direct receipts totalled Rs. 7,44,280 and indirect receipts Rs. 8,55,439. The income and expenditure are entirely Imperial.

On the Provincial Canals, the transactions of which are entirely Provincial, working expenses amounted to Rs. 71,810, direct income to Rs. 40,460 and indirect income to Rs. 16,850.

To arrive at the amount due to the Provincial Government to make up the guaranteed minimum of Rs. 41 lakhs, only direct income is taken into account. By the Accountant-General's figures, which differ slightly from the above and include certain petty transactions on works in charge of Deputy Commissioners, the Provincial share of receipts is Rs. 1,07,10,000, of which Rs. 1,06,54,000 are contributed by Major and Rs. 56,000 by Minor Works, and the Provincial share of expenditure is Rs. 69,28,000, of which Rs. 68,21,000 falls under Major and Rs. 1,07,000 under Minor Works. The balance of the guarantee is thus Rs. 3,18,000.

Major Works.

499. On the Western Jumna Canal the charges debited to revenue amounted to Rs. 12,08,454, the increase being due to the construction of silting reaches in swamped areas and to project surveys. The charges include Rs. 89,785 on extensions and improvements and Rs. 5,30,196 on repairs. The direct income realised was Rs. 23,40,359 and the indirect income from land revenue due to irrigation Rs. 2,23,412. The sum payable by the Jínd State has been raised for the future from the present figure of Rs. 1,19,644 to Rs. 1,31,000. The seigniorage leviable from Patiála was Rs. 22,597.

On the Sirhind Canal the charges were Rs. 9,96,530, of which Rs. 68,414 were spent on improvements and Rs. 3,36,111 on maintenance. The direct income realised was Rs. 30,57,629, a large increase on the figures for the previous year, due to the increase in area irrigated. There is no indirect income on this canal. The above figures are exclusive of the expenditure and income on the Native States Branches, for which separate accounts are kept.

On the Upper Bari Doab Canal the charges were Rs. 17,11,520, a large increase, incurred chiefly on manufacture at the Central Workshop, but high figures are given under extensions, Rs. 2,29,460, and maintenance, Rs. 7,74,490. The direct income realized was Rs. 38,29,707, and Rs. 3,26,150 were collected as land revenue due to irrigation.

On the Lower Chenab Canal the charges for the year amounted to Rs. 24,88,522, including Rs. 1,74,416 on extensions and improvements and Rs. 12,01,926 on maintenance and repairs. The direct income realised was Rs. 86,24,200 and the indirect income Rs. 41,42,468. The inclusion of owner's rate in the new enhanced land revenue rates on this canal have reduced the direct income, but the increase in the indirect income from the increase in land revenue rates and the abolition of remissions for ordinary failure far more than covers this decrease.

On the Lower Jhelum Canal the charges amounted to Rs. 10,52,142, including Rs. 2,33,149 on extensions and improvements and Rs. 3,28,139 on maintenance chiefly on special training works in the Jhelum below Rasul, where the state of the river had been unsatisfactory. The direct income realised is Rs. 22,76,097 and the indirect Rs. 4,87,614. The heavy remissions on account of boll-worm ravages in the cotton crop have adversely affected collections.

Expenditure on the Upper Sutlej Canals amounted to Rs. 3,39,381, of which Rs. 1,84,308 were spent on maintenance and repairs: a new head reach on the Upper Sohag having been necessary. The income from direct receipts was Rs. 3,81,955 and from land revenue Rs. 2,18,223.

Expenditure on the Sidhnai Canals debited to revenue amounted to Rs. 1,42,546, mainly on establishment. The income from direct receipts was Rs. 5,00,009 and from land revenue Rs. 1,48,357.

The working expenses of the Indus Inundation Canals amounted to Rs. 4,17,363, over Rs. 2½ lakhs less than in the previous year. Smaller amounts were spent on extensions (Rs. 72,117) and on maintenance (Rs. 2,54,448). Beyond the annual repairs and silt clearance little was done during the year. The direct income rose by over Rs. 1 lakh to Rs. 2,75,982 and the indirect income from land revenue was higher at Rs. 2,78,279.

Imperial Minor Works.

500. The expenditure on the Shahpur Canals was Rs. 67,612, heavy silt clearance being necessitated by the river breaching the Sahiwal Canal. The direct receipts were Rs. 54,178 and the indirect Rs. 12,656; both were adversely affected by the shortage of the canal supply.

The working expenses on the Ghaggar Canals amounted to Rs. 30,171. The direct receipts were Rs. 16,223. There are no indirect receipts on this system.

On the Lower Sutlej Canals expenditure reached the high figure of Rs. 3,43,003, of which Rs. 95,878 were spent on improvements and Rs. 1,42,542 on repairs. The benefit of the expenditure will be felt in coming seasons. Diversions were required for the Sardarwah and Mailsi Canals, which were threatened by the river. The canals realised Rs. 2,47,962 in direct income and Rs. 2,51,750 from land revenue. The income is, owing to the shortage of supplies, slightly below normal.

The working expenses of the Chenab Inundation Canals amounted to Rs. 1,66,017, of which Rs. 50,925 went on improvements and Rs. 64,518 on maintenance. Except for silt clearance, little expenditure was incurred. The direct income amounted to Rs. 1,68,192 and the indirect to Rs. 2,14,817.

The working expenses of the Muzaffargarh Canals amounted to Rs. 3,34,426 only, of which Rs. 41,538 were spent on improvements and Rs. 1,64,927 on maintenance. The figures for the previous year had been over Rs. 1 lakh higher. Silt clearance and the provision of working heads absorbed most of the expenditure. Direct receipts aggregated Rs. 2,57,725 and indirect receipts Rs. 3,76,216, the figures being in each case less than in the previous year.

Provincial Canals.

501. On the Shahpur Canals working expenses amounted to Rs. 48,780, chiefly on silt clearance. Direct receipts were Rs. 31,534 and indirect Rs. 6,284. On the Ravi Canals the expenditure was Rs. 23,027,—the direct receipts Rs. 8,926 and the indirect receipts Rs. 10,566.

Rangoi Canal.

502. Rupees 9,391 were spent on overhauling the Rangoi Canal before handing it over to the Hissar District Board. There were no receipts on this canal.

39.—Opium and Excise.

General.

503. Interest in the Excise administration in this Province since 1906 has chiefly centred in the carrying out of the various reforms advocated by the Excise Committee, and enjoined by the subsequent resolutions of the Government of India. The year 1911-12 accordingly was not marked by any radical changes. Steady progress on well-established lines has been the order of the day. The new Excise Bill, upon the preparation of which much care has been spent, has been administratively approved by the Government of India. One of the chief needs is the enhancement of the penalties that may be inflicted for the more serious offences. At present the Excise administration is undoubtedly handicapped by the inadequacy of the penalties prescribed and by the misplaced leniency of many Magistrates and Judges, who are reluctant to inflict even the moderate sentences which the law allows.

Gross revenue.

504. The gross income rose from rather over 57 lakhs to over 63½ lakhs, a growth which, though less than the enormous increase of 13¾ lakhs recorded for 1910-11, is sufficiently great to attract attention. The rise in Excise revenue in 1911-12, however, in so far as it is not produced by higher rates of taxation, is not due solely or even principally to increased consumption, but to the enhanced fees which result from keenness of competition and a more widespread knowledge of the profits of the trade and the methods by which such profits can be secured. What the increase has been in the past 30 years is evident from the following table :—

Source of revenue.	1881-82.	1891-92.	1901-02.	1911-12.
	Rs.	Rs.	Rs.	Rs.
Spirits	6,91,360	11,61,970	16,29,324	42,65,601
Beer	...	11,430	1,21,572	2,87,950
Drugs other than opium	1,37,560	1,57,300	2,84,130	7,02,271
Opium	3,63,510	4,14,280	5,90,345	11,04,299
Miscellaneous	...	...	800	1,479
Total ...	11,92,430	17,44,980	25,04,599	63,61,600

The figures for 1881-82 and 1891-92 include the districts of the North-West Frontier Province. The treasury figures for 1911-12 are larger than those given above, as advance collections for future years are shown in the departmental returns as income of the year to which they relate.

Gross expenditure.

505. Exclusive of the cost of establishment in the Financial Commissioners' office, of which no estimate is made, the total expenditure amounts to Rs. 1,76,586, or about $2\frac{3}{4}$ per cent. of the gross collections. This figure includes Rs. 5,915 for refunds which are not shown as an Excise charge in the treasury accounts. In 1901-02 the expenditure, inclusive of the cost of the office of the Commissioner of Excise, was Rs. 82,667.

Country spirits.

506. The special arrangements in Kángra have been discontinued and, with the exception of Kulu, the supply and vend of liquor is now uniform throughout the province. The imports from the Rosa distillery in the United Provinces continue to show a decline, but the establishment of an up-to-date distillery in Patiála will affect the Punjab establishments. The total outturn of the five distilleries in the province shewed a slight decline during the year. The duty paid on issues to the Punjab and North-West Frontier Province shewed an increase of over Rs. $1\frac{3}{4}$ lakhs, due in some measure to the Excise staff posted to distilleries. In this direction the increase in expenditure on the collecting staff has been completely justified. The distilleries are fully equipped with up-to-date plant, and there has been no obstacle to their satisfactory working.

Consumption.

507. The increased consumption amounted to 11,000 gallons only, and nearly the whole can be accounted for by the figures of the Delhi district, due no doubt to the influx of visitors to the Durbar. The totals include "special" or "spiced" spirit excised at Rs. 5 a gallon, which shows a large increase. It is a moot point whether this liquor is displacing foreign liquor or plain country spirit; but, in view of the fact that the sales of plain spirit are diminishing and that bazar licenses of foreign spirits show increased sales, it is not probable that the latter are affected. The special spirit is country spirit coloured, flavoured and bottled in capsuled bottles with attractive labels. Its sale at a price higher than that of plain spirit shows that the article is considered superior and is preferred by those who can afford it.

Vend.

508. The sum realised from license fees for wholesale and retail vend was rather under Rs. 16 lakhs, an increase of 30 per cent. The increase is extraordinary compared with the moderate increase in consumption. Apart from increased knowledge of the methods by which the profits of the trade can be secured, the introduction of "special" spirits has been the chief factor in this result The Financial Commissioner is of opinion that these extra license fees would disappear were Government to differentiate such liquor in the still-head duty scale, as has been proposed by some officers. Far more evidence than is at present forthcoming of fraud upon the consumer and injury to the licensees who sell imported and "foreign" spirit, would be necessary to justify a different rate of duty on such spirit. Should such special or spiced spirit entirely displace plain spirit in the public taste, there would be a gain to the administration if as a consequence there were a diminished demand for the product of the illicit still.

In consequence of the keen competition among distillers, the wholesale price of plain and coloured spirit fell one or two annas a gallon; in Amritsar as much as two-and-a-half annas. Retail prices, on the other hand, were inclined to rise, as licensees were anxious to make their profits cover the high auction fees.

Results.

509. The total income from country spirits was Rs. 40,69,994, an increase of some Rs. 5 lakhs. The proportion of the taxation, which is derived from license fees, exhibits a gradual increase, and now stands at 41 per cent. In itself this points to the desirability of raising the still-head duty, but the main consideration in this connection is the problem of illicit distillation.

Foreign spirits.

510. The features of the year were the increase due to the Durbar of wholesale licenses under which, however, a decreased quantity of spirits was sold. Retail shop licenses, both those on fixed fees and those put up to auction, were reduced. The income shows an appreciable increase from Rs 1,87,059 to Rs. 1,92,095, chiefly under auctioned bazar licenses.

Breweries.

511. A modified system of brewery control by the Excise staff is under consideration, which will render possible the levy of duty on manufacture instead of on issues. Sales of beer are recorded in retail foreign liquor shops, and indicate that the taste for beer is decidedly on the increase, though confined at present to large cities and cantonments. Reports from country districts, however, such as Gurdáspur, Lyallpur and Ferozepore, indicate the desirability of at least testing by experiment whether the rural population is prepared to substitute the more innocuous malt liquor for cane spirit. As an experiment in Ferozepore 12 country liquor shops have been licensed to sell beer also and 4 shops to sell beer only, and the Financial Commissioner is considering whether the facilities for sale should not be more widely extended.

Opium taxation.

512. The acreage rate in Kulu has recently been raised, and is estimated to have fallen on actual cultivation at Rs. 13 per acre. The unit of assessment has now been reduced to $\frac{1}{8}$ of an acre, and the incidence will approximate more nearly to the prescribed rate per acre of Rs. 9. The produce from Simla has now to pass through the ware-house in Kot Khai, where it is subjected to a further transport duty of Rs. 2 a seer.

Malwa opium.

The issue price of Excise opium has been raised to Rs. 20 per seer in the districts marching with the United Provinces and to Rs. 18 elsewhere. The increase is in "duty" only as the share taken by the opium agency has not been altered.

The duty on Hill States' opium was raised to Rs. 3 per seer and on Afghánistán imports to Rs. 8 per seer. These increases were followed by decreased imports in each case.

Vend.

513. Realizations on account of license fees for vend of opium fell by practically Rs. 50,000. The decrease is fully accounted for by the rise in duty on all kinds of opium and by the prohibition of boiling before sale introduced on April 1st, 1911.

The retail price of excise opium is about Rs. 26 a seer. Simla, Kulu and Hill States' opium sells at about Rs. 32 a seer and Afghan opium at Rs. 40 a seer. The substantial differences in the price of the three varieties of the drug indicate a corresponding gradation of quality in public estimation.

Consumption.

514. The total consumption, estimated at 63,541 seers, shows a slight increase, but it is Excise opium that is gaining ground. The prohibition of boiling (in which, however, the Native States have not yet joined) has made it impossible to sell other varieties as refined Excise opium. The various enhancements of duty on opium other than Excise opium have had the effect of maintaining a favourable market for Excise opium.

Results.

515. The total receipts on account of opium were Rs. 11,04,999 as against Rs. 10,68,939 in 1910-11. The raising of duty has had the very desirable effect of reducing the percentage of taxation (now 49 per cent.) borne by vend-fees. Comparison with the similar figure in the case of liquor shows that there is still a very large margin for the increase of opium duty.

Hemp drugs.

516. The duty paid on charas was increased by Rs. 2 to Rs. 10 from April 1st, 1911. The advisability of a further enhancement is under consideration. Consumption showed a considerable decline, and popular opinion appears to be opposed to the use of this pernicious drug. The consumption of bhang in the Multán division, which accounts for nearly half the provincial consumption, showed a large increase ascribed to the visits of Sadhus.

Cocaine.

517. The number of cocaine licenses was cut down from 97 to 74, and sales under license were greatly reduced; but in face of the large and growing illicit trade such control of sales is of little effect. The votaries of the drug are chiefly strangers from other provinces and residents of Delhi.

Results.

518. Income from drugs other than opium rose from Rs. 6,69,729 to Rs. 7,02,271, a large increase in license fees for sale of charas and bhang being accounted for by the circumstance that licensees had taken the precaution of

accumulating stocks of charas at the old rate of duty. Prices, however, did not begin to rise until towards the end of the year.

519. The number of Excise offences and of convictions shows a considerable increase, but illicit distillation is very prevalent in the cane-growing districts of the Central Punjab. Public opinion, however, is setting against the drink habit, and a temperance society numbering influential Sikh members has been formed at Lyallpur. With public opinion favourable, the time seems to have come for a determined effort to put a stop to smuggling and illicit distillation. Excise offences.

40—Salt Revenue.

Cis-Indus and Kalabagh Mines.

520. From January 1st, 1912, rates of payment to miners at the Mayo Mine, Khewrah (Jhelum), ranging, according to level below storage stations, from 1 anna to 1 anna 3 pies per cubic foot, were introduced instead of the previous uniform rate of 1 anna: deductions for marl were also abolished: consequently the cost per 100 maunds rose from Rs. 4-7-5·14 to Rs. 4-10-7, and the average outturn per hundred cubic feet decreased from 140 to 139·16 maunds From February 1st, 1912, the rates paid at the Nurpur and Warcha mines were raised from Rs. 4 to Rs. 5-8-0 per 100 maunds, and at the Kálábágh (Miánwáli) quarries from Rs. 4-6-10 to Rs. 6-4-0. At these three works the miners are paid on the quantity of salt actually cleared by the trade, and not, as at the Mayo Mine, on the cubic area excavated. The quantity of salt excavated was 3,639,504 maunds, the amount sold 3,491,999 maunds, and the stock balance, almost entirely at the Mayo Mine, rose from 304,192 maunds to 451,697 maunds. Excavation.

521. The sales were—at the Mayo Mine 3,002,541 maunds; Warcha 158,592, Núrpur 4,702 and Kálábágh 326,164 maunds. Owing to the increase in wages the sale price of salt at the last three places was increased from February 1st, 1912, from 10 pies to one anna a maund. A further enhancement throughout the division to one anna two pies was effected from April 1st, 1912. On the figures for the year the sale price realised, Rs. 2,29,756, was Rs. 6,148 less than the cost price of the salt, Rs. 2,35,904. Since April 1st, 1894, the total loss under this head has aggregated Rs. 4,27,723, or 1·74 pies a maund. Sales.

522. Through traffic sales formed 93·44 per cent. of the total rail-borne trade of the division. The work connected with clearances for the through traffic was carried out departmentally, and the average cost of clearance was Rs. 1-6-11 per hundred maunds. The uncleared balance was 53,202 maunds. The receipts for clearance fell short of the expenditure, including postage and leave and pensionary charges, of Rs. 46,724 by Rs. 331. On the result of the last 18 years, however, the gain to Government has been Rs. 3,03,934. Through traffic salt.

523. A low level tunnel to facilitate the bringing out of salt from the low level workings at the Mayo Mine was driven 437·7 feet at a cost of Rs. 13,979-14-5 out of a total length of 5,517 feet. In the Mári Hill near Kálábágh an exploration drift of 451 feet was worked at a cost of Rs. 2,250. General.

The total receipts of the division were Rs. 37,69,500 and the total charges Rs. 3,86,794. The distribution of the salt of this division is to the Punjab and Native States 71 per cent., to the United Provinces 17 per cent., to Behar 5 per cent., to Kashmir 3 per cent., to Sind 2 per cent., and to the North-West Frontier Province 2 per cent.

Mandi Mines.

524. The sales from the Mandi mines at Guma and Drang were 110,080 maunds. There was a shortage of supply at Drang owing to landslips. The realizations are divided by the British Government, which takes ⅔rds of the Mandi.

duty of 3 annas a maund, and the Raja of Mandi, who takes ⅓rd of the duty and the whole of the price. The price was 10½ annas throughout the year. The British share of the duty was Rs. 13,760 and expenditure, on inspection, Rs. 4,946. The whole of the Mandi salt is consumed in the Province and the Native States, about half going to the Kángra district.

Sultanpur Salt Works.

Sultanpur.

525. At the Sultánpur Salt works in Gurgaon district the salt is produced by licensed manufacturers by evaporation from well brine. Seventeen factories only were worked, and though sales increased during the year the industry is on the decline. The salt manufactured was 35,334 maunds; 31,914 were sold and stocks were increased from 2,155 maunds to 5,575 maunds. The salt is sold by the refiners at varying rates ranging from 3 to 8 annas a maund, and the average price was 4·56 annas. The United Provinces takes 88 per cent. of this salt and the Punjab the balance. The total receipts amounted to Rs. 32,364, including Rs. 498 on account of the Hakimi cess, 3 pies a maund, the proprietary share of Government in the produce, and the total charges were Rs. 10,512.

Internal Branch.

Saltpetre.

526. In the Internal Branch 27 licenses for saltpetre refineries and 1,394 for the manufacture of crude saltpetre were issued. The fees for the former are Rs. 50 each and for the latter Rs. 2 and realised Rs. 4,138. At these works 47 maunds of salt and 6,839 maunds of sitta (impure saltpetre salt) were excised apparently to Rs. 47 and Rs. 3,419, respectively. Out of 198,728 maunds of saltpetre utilised for refinement, 71,953 maunds of refined saltpetre were produced.

General.

Financial Results.

527. Exclusive of the operations of the Internal Branch, complete provincial figures for which are not published, the transactions in the Punjab of the department were as follows:—

Source.	*Receipts.* Rs.	*Charges.* Rs.	*Nett.* Rs.
Cis-Indus	37,69,500	3,86,794	33,82,706
Mandi	13,760	4,946	8,814
Sultánpur	32,364	10,512	21,852
Amount paid to Baháwalpur	...	80,000	– 80,000
Total ...	38,15,624	4,82,252	33,33,372

The payment to Baháwalpur is under agreement by which the Durbar undertakes to prevent the manufacture of salt within the State.

Supply and price.

528. The average supply of salt per head of the population in the Punjab is worked out by the department on the average of the three years 1909-10 to 1911-12 at 9·04 lbs. per annum.

The rate of duty, Re. 1 a maund, ordered on 20th March 1907 remained unchanged. Mandi salt, however, pays a special rate of 3 annas. The wholesale price of Cis-Indus salt ascertained by officers of the department in seven selected centres varies from Re. 1-6-9 per maund in Lahore to Re. 1-11-8 at Delhi. Retail prices recorded by the statistical bureau for ten centres ranged from Re. 1-8-2 at Amritsar to Re. 1-13-1 per maund at Delhi. The average of these retail prices showed a rise of 1 pie per maund over the figures of the previous year.

Departmental.

529. The Punjab border adjoining Bikáner was patrolled to ascertain whether any salt made in the State found its way into British territory. The result showed that the arrangements made by the Durbar were effective. Departmental changes affecting the Punjab made during the year were the

increase of the local allowance of the Manager, Mayo Mine, from Rs. 100 to Rs. 150: the grant of a local allowance of Rs. 100 to the Superintendent, Warthganj Depôt, Khewrah, and the increase of the local allowance of the Inspector, Punjab Circle Internal Branch, from Rs. 20 to Rs. 50.

41.—Stamp Revenue.

General.

530. The steady expansion of receipts under the Court Fees and Stamp Acts, which has been characteristic of the past decade, continued during 1911-12. The gross receipts amounted to Rs. 52,61,711, an increase of Rs. 3,65,518. The total charges, inclusive of cost of stamps and plain paper, aggregated Rs. 2,47,123, an increase of Rs. 8,039 in discount on sales and cost of stamps. In the treasury accounts refunds aggregating some Rs. 72,000 are not shown as a charge against the stamp head. This practice accounts for the difference between the departmental and treasury figures for charges.

Court-fee Stamps.

531. Twenty-two districts show an increase in the income from court-fee stamps, the largest increases being in Lahore, Lyallpur and Delhi. Of the seven districts which show decreases, Hissar heads the list with Rs. 10,558. The net result for the province is an increase of Rs. 1,75,507 on a total income of Rs. 33,15,995 realized by the sale of court-fee stamps. The increase in Lahore is attributed to applications for grant of probate and letters of administration in estates of large value; in Lyallpur, to an increase in the number and value of suits; and in Delhi, to the institution of a number of suits for ejectment of tenants from houses in the city on the occasion of the Durbar. The decrease in Hissar is said to be due to the fact that the institution of civil suits during the previous year was abnormal.

Non-judicial stamps.

532. The income from non-judicial stamps was Rs. 18,69,239, being an increase of Rs. 1,84,846 on the figures for the preceding year. Of this, Rs. 1,07,553 was under non-judicial impressed stamps, spread over 24 districts. The largest increases were in Delhi, attributed to business connected with the Durbar; Lahore, ascribed to commercial prosperity; Amritsar, said to be due chiefly to an increase in the value of immoveable property; Gujránwála, the only explanation given is the obvious one that a larger number of deeds was registered; in Muzaffargarh the increase is attributed to an expansion of banking business, and in Lyallpur to the registration of sales and mortgages on the acquisition of proprietary rights.

The income from the sale of *Hundis* rose from Rs. 69,189 to Rs. 74,729, being an increase of Rs. 5,540. This is due generally to the expansion of banking business in the larger towns, but in Amritsar it is attributed to an increase in borrowing, consequent on the bad *kharif* harvest.

There was also an increase of Rs. 59,469 in the income from impressed labels or special adhesive labels, due to the enormous development of business connected with Insurance Companies and Marriage and Relief Funds. It may be noted, however, that there has been a considerable decrease in the number of documents presented for stamping on behalf of such associations since the introduction of recent legislation for their regulation.

Insufficiently stamped documents.

533. The number of insufficiently stamped or unstamped documents dealt with was 2,238 and the amount of duty and penalty realized was Rs. 22,121.

42.—Assessed Taxes.

General.

534. Gross collections rose from Rs. 15,60,784 to Rs. 16,21,063, but a normal sum of Rs. 9,900 was refunded in the year. To the increase of Rs. 60,000 the chief contributions were the tax on profits of companies (Rs. 5,000) and the tax on "other sources" (Rs. 41,000). The assessment for 1911-12 depended for the most part on the course of trade during 1910-11. The harvests for that year were good, and the grain trade in Lyallpur, Delhi and other centres was very profitable, prices having risen after the grain had reached the

markets. Cotton prices reached a record level. Exclusive of refunds the cost of collection amounted to Rs. 11,325 only. Increased attention has been given to the important matter of the preliminary assessment. The Commissioner of Ráwalpindi has issued special instructions on the subject, and District Officers generally are alive to the necessity of systematizing the information on which the subordinate officers, to whom the work of preliminary assessment is entrusted, must rely for a satisfactory performance of their duties.

Special enquiries.

535. On the suggestion of Government special enquiries are being made in Lahore, Multán and Lyallpur. These enquiries might probably be extended with advantage to other centres. The Deputy Commissioner of Ambala, for instance, suggests the necessity for a special enquiry in that district, and possibly the assessment of the Jhelum Colony might receive scrutiny with advantage.

Under the orders of Government, enquiries have been made to ascertain to what extent the tax on large incomes earned in the Punjab is paid in other provinces. The results were unsatisfactory. In the case of the largest firms no information was forthcoming as to the amount of income earned in the Punjab as distinct from that earned in other provinces. The Financial Commissioner, however, hopes that some information may be forthcoming from the special enquiries now being made in connection with the assessments of Lyallpur and Multán.

43.—Forest Revenue.

Income and expenditure.

536. The total revenue of the forest year was Rs. 10,58,210 and the expenditure Rs. 7,79,805, yielding a cash surplus of Rs. 2,78,405. The details are—

Revenue.	Rs.	Expenditure.	Rs.
I—Timber removed by Government agency ...	2 24,243	A—Conservancy and Works	3,20,312
II—Timber removed by consumers ...	6,80,589	B—Establishments	4 59,493
III—Drift, etc.	52,293		
IV—Forests not managed by Government ...	5,655		
V—Miscellaneous	95,430		
Total ...	10,58,210	Total ...	7,79,805

The income shews a considerable decrease on the previous year's figures, explained chiefly by overstocked markets and consequent slack demand for fuel. The expenditure has at the same time slightly increased owing to the introduction of a time scale of pay for the provincial service, to the extension of resin operations and to buildings. The cash surplus compares unfavourably with that of the last and previous years, but the figures are to some extent misleading, as a large amount of the income of the year has for various reasons not come into the year's accounts. Making the necessary adjustments the real surplus is calculated to be Rs. 4,34,372.

The net result of the year's working is as follows :—

	Rs.
Cash surplus	2,78,405
Increase in value of stock	1,49,933
Increase in value of live and dead stock	20,281
Increase in outstandings against contractors and disbursers	16,867
Total ...	4,65,486
Deduct—	
Decrease in outstandings of revenue	5,090
Net result in favour of the year	4,60,396

The forest year ends on June 30th, and in consequence the departmental annual figures of receipts and expenditure differ widely from those of the treasury returns for the financial year given in paragraphs 495 and 496 above.

44.—Provincial Revenues.

Income and expenditure.

537. The income and expenditure under the provincial section of the accounts in the last two years are ~~is~~ as follows:—

	1910-11. Rs. 1,000.	1911-12. Rs. 1,000.
Opening balance	27,76	69,75
Income	2,93,17	3,99,33
Assignments from Imperial to Provincial ...	97,95	37,77
Total ...	4,18,88	5,06,85
Expenditure	3,49,13	4,02,79
Closing balance	69,75	1,04,06

No true comparison can be drawn between these gross figures because the totals both of receipts and charges have been greatly increased in 1911-12 by the changes in the Provincial Settlement, the effect of which is shown in the following paragraph.

The details of income and expenditure are given in the statements in paragraphs 495 and 496, from which it will be seen that the province has shared in the increased income which has been obtained from Land Revenue, Stamps and Excise already noticed. The decrease under police is due to the cessation of contributions from municipalities, which have been relieved from police charges. The Local Government receives instead a compensatory assignment from the Government of India. Practically all heads show an increase in expenditure.

The balance of Rs. 1,04,06,000 at the close of 1911-12 included an aggregate of Rs. 38,24,000, being unspent balances of Imperial assignments for specific purposes, so that the true provincial balance was Rs. 65,82,000 against the prescribed minimum of Rs. 10 lakhs.

Effect of recent changes.

538. The revision of the provincial settlement has been referred to in paragraph 93. On the actual figures for 1911-12 the result to the Provincial Government has been as follows:—

Head.	Account.	Amount shared. Rs. 1,000.	Provincial share. According to old Settlement Rs. 1,000.	Provincial share. According to new Settlement Rs. 1,000.	Effect of new Settlement. Rs. 1,000.
		Rs.	Rs.	Rs.	Rs.
Land Revenue ...	Income	3,47,92	1,30,47	1,73,96	+43,49
Forest	Income	13,10	6,55	13,10	+6,55
Irrigation ...	Surplus	75,64	28,24	37,82	+9,58
	Balance of guarantee ...	...	2,51	3,18	+67
Land Revenue ..	Refunds and Compensations.	115	45	58	−13
Forest	Expenditure ...	7,68	3,84	7,68	−3,84
Nett additional income					+56,32
Fixed assignments abolished					−46,29
Nett result to Provincial finances ... ... Rs. 10,03,000 ...					10,03

Upwards of 7 lakhs of the above nett gain is due to abnormal receipts from sales of land in the Canal Colonies, which are of the nature of capital.

Over a lakh is contributed by the forest surplus, and the remainder is on account of ordinary revenue, partly from collection of arrears and partly from enhanced assessments.

Assignments.

539. The assignment in 1911-12 of Rs. 37,77,000 includes –

		Rs.
(a) Fixed adjusting assignment under the new settlement	...	6,77,000
(b) To compensate for loss of revenue		15,06,000
(c) For specific expenditure	...	16,17,000
Total	...	38,00,000

against which is set off a recovery of Rs. 23,000 due to the altered classification in the expenditure on the Public Works section of the Accountant-General's office.

45.—Local Funds.

General.

540. The gross income of district boards has risen from Rs. 51,87,000 to Rs. 53,74,000. To this income Government contributed Rs. 4,28,000 under Education, Rs. 49,000 under Medical, Rs. 1,05,000 under Scientific Departments and Rs. 7,75,000 for Public Works: Rs. 13,57,000 in all. The incidence of taxation per head of population was 2 annas 5 pies. The total expenditure was Rs. 53,84,000 as against Rs. 49,35,000 in 1910-11.

Local rate.

541. From the local rate, which is the chief source of the income of the boards, the amount obtained was Rs. 27,55,000, which is Rs. 41,000 in advance of the recoveries of the previous year.

A number of boards still complain of lack of adequate means to discharge their obligations, and in consequence have been obliged to apply for an enhancement of the local rate. This has been already done in Ferozepore and two tahsils of Muzaffargarh, whilst similar proposals are being put forward by the Jullundur, Ludhiána, Kángra and Lahore boards. Such proposals are readily sanctioned, as the slight increase in the cess is hardly felt by the land-holders, and when the proceeds are judiciously applied, especially for the improvement of communications, the expenditure brings in an ample return to the land-holder by enabling him both to secure a better price for the produce of the land and to obtain imported articles at a lower cost. The readiness of the boards to vote for raising the local rate indicates that the members are satisfied that there is further room for useful expenditure, and justifies the Government in supplementing the resources of the boards with grants from general revenues.

Education.

542. There has been another marked increase in receipts under the head "Education," which have risen from Rs. 6,53,315 to Rs. 6,82,400. The figures for the year 1909-10 were Rs. 6,14,000. The chief cause of the increase has been the raising of fees. Expenditure has more than kept pace with the receipts, amounting to Rs. 10,63,418 as against Rs. 10,14,227 last year. The increase is due largely to revision of the scale of teachers' salaries and to the establishment of training classes for teachers in several districts. In spite of the large increase in expenditure many districts report that they cannot cope with the rapid rise in attendance which has occurred during the year.

Medical.

543. Receipts under the head "Medical" rose from Rs. 1,20,422 to Rs. 1,25,199, the increase being mainly due to subscriptions. Expenditure dropped from Rs. 6,05,223 to Rs. 5,85,423, the decrease being caused by the absence of large plague preventive operations except in the Delhi division, where special measures were undertaken on account of the Delhi Durbar.

544. Receipts from Veterinary Hospitals have risen from Rs. 5,851 to Rs. 7,906, expenditure rising at the same time from Rs. 45,637 to Rs. 56,825. The increased attention which is being paid to horse and cattle breeding by the boards is reflected in the increase of expenditure on stallions and bulls from Rs. 96,633 to Rs. 1,03,312. Veterinary.

545. Expenditure under Civil Works also shows an increase, having risen from Rs. 19,18,099 to Rs. 22,40,441. Of this sum Rs. 9,41,220 has been devoted to communications, of which Rs. 2,18,984 have been spent on the construction of new roads and Rs. 7,22,236 on the maintenance of existing roads. The increase under this head is satisfactory. Communications, however, are far from good, and few district boards are able either to construct the roads required or maintain those existing in even a moderate state of repair. This is due not only to a lack of funds, but also to the difficulty of procuring competent and honest engineers. Government hopes to be able to devolve more ordinary works on to the district boards establishments on the usual terms of payment, and this should enable them to keep up more efficient establishments. Communications.

546. The expenditure on arboriculture has dropped from Rs. 2,00,758 to Rs. 1,89,153. The decrease may have been caused by the partial failure of the monsoon. No district has succeeded in making arboriculture pay, and in many the deficiency is considerable. It is generally admitted that there is room for improvement, and that the income from the sale of roadside trees ought to be much larger. Arboriculture.

547. Balances fell below the minimum in Gujrát only, and the financial position of this board appears far from satisfactory. Surplus balances were high in the districts of Rohtak, Karnál, Multán and Lyallpur. Balances.

46.—Municipal Funds.

548. The aggregate income of the municipalities in the province rose from Rs. 63,93,000 in 1910-11 to Rs. 71,41,000 in 1911-12, octroi furnishing Rs. 39,66,000 out of a total income from taxation of Rs. 44,90,000. The increase was due partly to greater octroi collections consequent on the better supervision of the collecting staff and working of the Municipal Account Code and partly to better receipts under the head "Rents of lands, houses, &c," in Delhi and Lahore, in the former owing particularly to the receipts from stands erected to view the State Entry of their Imperial Majesties. The taxation per head of population is Rs. 2-10-2 per annum in municipalities and Re. 0-6-6 in notified areas. Increased Government grants also contributed to the rise in receipts. Special grants were given during the year to Delhi for the reclamation of the Bela and the improvement of the sanitary condition of the city, to the Amritsar municipality for the filling up of *dhabs* which are the source of malaria in the town and suburbs, and to the Lahore municipality towards the additional supply of wells. Municipalities have also been relieved of police charges aggregating about Rs. 5,19,000, or, including the amount of Rs. 67,767 already remitted four years ago to the Lahore municipality, about Rs. 5,87,000. As it has been found necessary for the sake of efficiency to keep police establishments under the orders of the Police Department and the municipalities have in consequence practically no control over them, Government decided to assume all liability for the charges from the 1st April 1911. Income.

549. The expenditure has risen from Rs. 63,85,000 in 1910-11 to Rs. 69,09,000 in 1911-12. The increase mainly occurs under the heads "Miscellaneous and Water-supply." There is a decrease of over Rs. 60,000 in expenditure under "Schools and Colleges." This decrease is unsatisfactory because now that they have been relieved of police charges, municipalities can no longer plead poverty as an excuse for restricting expenditure on education. The proportion of expenditure devoted to Administration and Collection was 11 per cent., Public Safety 6 per cent., Public Health and Convenience (including Expenditure.

Public Works 14 per cent.) 58 per cent., Public Instruction 8 per cent., Contributions for General Purposes 2 per cent., Miscellaneous 9 per cent., Extraordinary and Debt 6 per cent. The expenditure on water-supply and drainage, however, includes a large capital outlay in addition to the expenditure on general public works.

Balances.

550. Closing balances show an improvement of over 2 lakhs. The figures in 1910-11 stood at Rs. 16,24,000 and in 1911-12 at Rs. 18,57,000. All municipalities and notified areas close with good balances except the municipalities of Rahon (Jullundur), Batála (Gurdáspur) and Ráwalpindi and the notified areas of Aláwalpur (Jullundur), Kalanaur, Sujánpur and Srigovindpur (Gurdáspur), Háfizabad (Gujránwála) and Chakwál (Jhelum), which failed to maintain the required minimum. Three of the latter have since ceased to be notified areas.

Several municipalities have unduly large balances. The maintenance of balances largely in excess of the requisite minimum is certainly not sound finance, except in cases where, as in several of the municipal towns in the Delhi division, the balances have been accumulated for the purpose of financing specific schemes of improvement.

Accounts.

551. On the whole, the accounts of the municipalities and notified areas show gradual improvement, the credit of which is mainly due to the careful audit of the Local Fund Auditors.

Loans.

552. No new loans were taken by the municipalities during the year. After the close of the year, however, the Delhi municipality took a loan of Rs. $5\frac{1}{2}$ lakhs for the extension of the water-works.

CHAPTER VI.

VITAL STATISTICS AND MEDICAL SERVICE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Census.—Report on the Census of the Punjab, 1911, by Rai Bahadur Pandit Hari Kishan Kaul, C.I.E.

Births and Deaths.— *Sanitation.*— } Report on the Sanitary Administration of the Punjab and Proceedings of the Sanitary Board for the year 1911.

Emigration.—Census Report, as above.

Medical Relief.—
- Notes on the Annual Statements of the Dispensaries and Charitable Institutions of the Punjab for the year 1911.
- Report of the Pasteur Institute, Kasauli, for the year 1911.
- Report on the working of the Punjab Lunatic Asylum for the year 1911.

Vaccination.—Notes on Vaccination in the Punjab for the year 1910-11.

PUBLICATION OF THE GOVERNMENT OF INDIA.

Statistics of British India, Part V, Area, Population and Public Health.

47.—DETAILS OF CENSUS.

GENERAL CENSUS OF 10TH MARCH 1911.

Successive enumerations.

553. The first reliable Census of the Punjab was taken on the 1st January 1855. At that time the Delhi territory was not included in the Province. The population of the tract in question had, however, been enumerated at the Census of the North-Western Provinces, taken on 1st January 1853, with the exception of the district of Sirsa,* for which the earliest reliable figures are obtained from a settlement Census taken village by village between 1852 and 1862.† The next Census was taken on the 10th of January 1868, and embraced the whole British territory of the Punjab as it then stood, but did not extend to the dominions of the Native States. This was succeeded by a more elaborate and careful enumeration on the 17th February 1881, which embraced the whole population of the old Province. The Census of 26th February 1891 related, with some insignificant variations, to the same area as that of 1881; but the Census of 1st March 1901 was extended to the Kurram Valley and the Shiranni country, territories on the North-West Frontier containing a population of 66,628 souls, and to the cantonments of the Malákand, Dir, Swát and Chitrál. The Census of 10th March 1911 embraced the whole Province as then constituted inclusive of the Native States. The Censuses of 1881, 1891, 1901 and 1911 were conducted on substantially the same principles. The three first enumerations were, it will be observed, separated, roughly speaking, from one another by identical intervals of a little more than 13 years, and are followed by

* Now partly in Hissar and partly in Ferozepore.

† A rough enumeration had previously been made in 1849.

the three recent Censuses at intervals of 10 years. In the following paragraphs the figures of the Census of 1911 are always referred to, save when the contrary is expressed, and the returns of previous enumerations, where referred to, are the figures adjusted to represent the province as it was in March 1911.

Increase and decrease of population.

554. The population in British territory alone and in the Province as a whole, including the Native States, at each Census since 1881 is shown below :—

		Increase per cent. since last Census.	Actual population.
British Territory	1881	...	17,274,597
	1891	+10·0	19,009,368
	1901	+6·9	20,330,337
	1911	−1·7	19,974,956
Total Province, including Native States ...	1881	...	21,136,280
	1891	+10·1	23,272,648
	1901	+6·4	24,754,735
	1911	−2·3	24,187,750

Whereas the population in the British districts has fallen 1·7 per cent. since 1901, the fall in the Native States, where the population is generally far less stable, has been 4·8 per cent. The decrease in the provincial figure is confined entirely to females who have lost 404,766, or 4·2 per cent., while males have increased by 49,385 or ·45 per cent. Roughly speaking, the western and north-east Himalayan tracts have gained in population, while the north, central and southern areas have lost. The largest decreases have been in Ludhiána, Ambála, Amritsar, Rohtak, Gurgaon and Jullundur and in the Kalsia, Nábha, Kapúrthala, Patiála and Pataudi States. In so far as these decreases are not due to migration to the canal colonies, they are solely due to the ravages of plague and malaria. Plague, by being particularly fatal to women of child-bearing age, has had a powerful effect in retarding the recuperative power of the population ; for, though a fever epidemic results at once in a low birth rate, the normal is quickly regained as soon as the epidemic has disappeared. The Multán division, however, has suffered less severely as a whole from disease than the rest of the province. Only two or three districts of the west are affected by the migration to the colonies, but the increases in Lyallpur, Shahpur and Jhang are quite abnormal. The increases in Multán, Miánwáli, Montgomery, Muzaffargarh and Dera Gházi Khan, which are entirely due to favourable agricultural conditions and the general development of resources, are a measure of the enormous loss suffered by the Province as a whole during the last decade. The figures for the Census "natural divisions" are as follows:— Indo-Gangetic Plain West 11,027,490, decrease 9 per cent. ; Himalayan 1,724,480, increase 2 per cent. ; Sub-Himalayan 5,805,081, decrease 6 per cent.; and North-West Dry Area 5,630,699, increase 18 per cent.*

* Except for the combination of the Himalayan and Salt Range tracts, these natural divisions roughly correspond to those described in paragraph 35.

The Census divisions are as follows :—

I.—Indo-Gangetic Plain West—

1. Hissar.
2. Loháru State.
3. Rohtak.
4. Dujána State.
5. Gurgaon.
6. Pataudi State.
7. Delhi.
8. Karnál.
9. Jullundur.
10. Kapúrthala State.
11. Ludhiána.
12. Máler Kotla State.
13. Ferozepore.
14. Farídkot State.
15. Patiála State.
16. Jínd State.
17. Nábha State.
18. Lahore.
19. Amritsar.
20. Gujránwála.

II.—Himalayan—

21. Náhan State.
22. Simla.
23. Simla Hill States.
24. Kángra.
25. Mandi State.
26. Suket State.
27. Chamba State.

III.—Sub-Himalayan—

28. Ambála.
29. Kalsia State.
30. Hoshiárpur.
31. Gurdáspur.
32. Siálkot.
33. Gujrát.
34. Jhelum.
35. Ráwalpindi.
36. Attock.

IV.—North-West Dry Area.

37. Montgomery.
38. Shahpur.
39. Miánwáli.
40. Lyallpur.
41. Jhang.
42. Multán.
43. Baháwalpur State.
44. Muzaffargarh.
45. Dera Gházi Khan.

555. Of the total population of the Punjab, 89·4 per cent. is rural and 10·6 per cent. urban, the rural population being largest in the hills and in the western districts. The grouping is in the following proportions :— Distribution over towns and villages.

Size of villages or towns.	Percentage of the population. 1901.	1911.	Size of villages or towns.	Percentage of the population. 1901.	1911.
Under 500	25·4	25·9	10,000—20,000 ...	2·2	2·0
500—1,000	24·0	25·6	20,000—50,000 ...	1·5	1·5
1,000—2,000	22·9	22·7	50,000—100,000 ...	1·8	1·9
2,000—5,000	15·3	14·1	Over 100,000 ...	2·3	2·5
5,000—10,000	4·5	3·8			

The cities of more than 100,000 souls are—Delhi (232,837), Lahore (228,687), and Amritsar (152,756); and the towns of more than 50,000 souls

are—Ráwalpindi (86,483), Multán (99,243), Ambála (80,131), Jullundur (69,318), Siálkot (64,869), and Ferozepore (50,836). Patiála, previously included in this class, has now a population of 46,974 only. These figures include the cantonment populations.

Towns.

556. A "town" was defined to include any municipality, civil lines or cantonments and any place with a population of not less than 5,000 souls which has urban characteristics. The definition has been substantially the same since 1881, but "notified areas" were not treated as municipalities, and the stricter classfication has resulted in a decrease in the number of Census towns from 228 in 1901 to 174 in 1911, which figure moreover includes 12 places not treated as towns in 1901. The average population per town is about 14,800 souls. Between 1881 and 1891 the town population increased 7·4 per cent., and between 1891 and 1901, 4·7 per cent. Between 1901 and 1911 it has fallen 1·5 per cent. The figures are for the towns common to each pair of censuses. There is, it will be seen, no tendency for the general population to crowd into the towns. Of the three Punjab cities (towns with population of over 100,000) Delhi has increased 11½ per cent. in the decade, and Lahore 12·7 per cent, but Amritsar, owing to plague and malaria, has declined by 6 per cent.

Villages.

557. The "Census" village is identical with the Revenue estate in British districts, and a similar arrangement has been adopted in the Native States, but in the hills and parts of the western districts, for reasons which appear in section 4, this village is a purely artificial unit. The total number of villages is 44,400, some increase being due to the formation of new villages and the reduction of certain "towns" to village status. The average population per village is 487, and the incidence is generally about 50 per acre.

Distribution over area.

558. The number of souls per square mile is 177 against 185 in 1901, varying in British territory from 560 in Jullundur to 63 in Miánwáli and in the States from 426 in Kapúrthala and Máler Kotla to 42 in Chamba. Generally speaking, the density increases from the ends to the centre of the Province, though Delhi is an exception. The most thinly populated portions of the Punjab lie on the west, south-west and north-east of the Province. The primary condition that determines the density of the population is the existence either of an ample rainfall or of facilities for irrigation. The intrinsic fertility of the soil is a secondary factor. Complete figures for cultivation are available only for the British districts, where it is found that the density on total area is 200 per square mile, on gross cultivated area 431, and on net cultivated area 499. The gross cultivated area includes the area double cropped. In the Himalayas, where the non-agricultural population is large, the density on the net cultivated area is as high as 965 per square mile, and it is lowest in the Western Plains, where it is 435 only. No district in the Province can now be regarded as congested. Migration to the colonies followed by the visitation of plague has greatly reduced the pressure of the population of the submontane districts, where it was at one time feared that population was rapidly over-running the increase in means of livelihood.

Distribution among houses.

559. A considerable change was introduced at this Census in the definition of a "house" with the object of bringing it more into accord with facts and of making it less artificial. The result was largely to multiply the number of houses, and proportionately to reduce the average number of persons per house. The total number of occupied houses was returned as 5,405,015, of which 4,454,236 were in British territory, giving 40 houses per square mile for the Province and 4·5 persons per house. The former proportion varies from 71 in the Sub-Himalayan tract to 17 in the Himalayas, but the latter is more or less uniform throughout the Province: and the definition adopted is probably justified by this result.

Distribution by religions.

560. The population of the Province consists of 8,773,621 Hindus, 2,883,729 Sikhs, 12,275,477 Muhammadans, 199,751 Christians, 46,775 Jains and 8,397 of other religions: the proportions *per mille* being 363 Hindus,

119 Sikhs, 508 Muhammadans, 8 Christians and 2 Jains. The Delhi division is preponderatingly Hindu with 682 *per mille*, but the north and west is Muhammadan with 866 *per mille* in the Ráwalpindi division and 779 in Multán. The Lahore division is fairly typical of the Province, with proportions of 243 Hindus *per mille*, 158 Sikhs, 574 Muhammadans and 25 Christians: but in the Jullundur division the position of the Hindus and Muhammadans is reversed. Although the Punjab is the Province of the Sikhs, it is not numerically speaking a Sikh Province. Even in the Jullundur division the proportion of Sikhs does not rise above 197 *per mille*, though in the Ludhiána district it is as much as 400, and in Patiála, where one-fifth of the whole reside, it is 377. Kángra returns the largest number, 725,156, and the largest proportion, 942, of Hindus. The most exclusively Muhammadan districts are Dera Gházi Khan, 884, and Miánwáli, 882 *per mille*. Christians are conspicuous only in the Lahore division, and in Siálkot the proportion of Christians is 50 *per mille*. Practically the whole of the Jains are located in the Delhi division where they are fairly evenly distributed over the districts and States of the plains. The Hindu sects separately tabulated at the recent Census numbered 38, but over 7 millions were returned under Sanatan Dharm and half a million under Lal Begi. Similarly, although five-sixths of the Sikhs were returned as belonging to *Kesdhari* (long-haired) sects as opposed to *Sejhdhari* (short-haired) ones, the great majority under the former are returned under unspecified sects and the latter are chiefly Nánakpanthis, followers of the first Guru. The Muhammadans are almost wholly Sunnis, 2 per cent. only being returned as Shias, principally in the Jhang, Mianwali, Muzaffargarh and Shahpur districts. Since the previous Census the Hindu population has declined 15 per cent., while the Sikhs have increased 37 per cent. These changes are to some extent due to more accurate enumeration, and the combined figures show a decrease of 7 per cent. as the effect of plague on these two religions. The small Jain community has also for the same reason decreased, but the Muhammadans with their large numbers in the west of the Province are practically stationary, the increase being under 1 per cent. Christians have increased by 200 per cent., due to an increase in the Native Christian community from 37,980 to 163,994.

Migration and birth-place.

561. Over 97 per cent. of the population of the Province were born within the Province; over 2 per cent. in other parts of India, and 54,267 all told outside India. Of the Punjab-born population, 94½ per cent. were at their homes at the Census, 4 per cent. in contiguous districts, and 1½ per cent. in more distant districts. The corresponding figures in 1901 were 97½, 2, and ½ per cent. The improved means of communication are responsible for freer intercourse between different parts of the Province. For various reasons the present figures probably represent the minimum rather than normal migration, but the Indian is demonstrably a home-loving individual. The bulk of the permanent migration has taken place from the congested districts to the canal colonies.

Extra-provincial migration in India.

562. Emigration to countries beyond India is dealt with in section 49. The total number of immigrants from other parts of India is 605,952, and of emigrants to other parts of India 504,161, the net result being a gain to the Province of 101,791 souls. In both cases the chief movement, between 60 and 70 per cent. of the whole, is between the Province and contiguous districts, and the figures are appreciably lower than at the previous Census, when they were 663,222 and 506,033, respectively. Casual immigration from Rájpútána was checked by the favourable agricultural conditions at home, and immigration from the North-West Frontier Province was in 1901 for special reasons abnormal. The reduction in the total population of the Punjab and prosperous times have no doubt contributed to reduce emigration from the Province. The excess of immigrants over emigrants is a usual and natural feature of the enumerations. The chief figures are Rájpútána + 248,152, − 89,637; the United Provinces + 219,913 − 1,22,289;

Kashmir + 72,369, – 59,707; North-West Frontier Province + 35,271, – 68,893; Bombay (Sind, &c.) + 10,583, – 55,444. The migration is largely due, especially in the case of the United Provinces, to the exchange of women in marriage. A custom exists among the Hindus of the south-east of taking wives from the east which causes some immigration of females from the United Provinces.

Intra-provincial migration.

563. The most notable feature of intra-provincial migration is the immigration to the canal colonies of the west which is separately noticed. In migration between adjoining districts the proportion of females preponderates generally: but as the source of immigration recedes, the proportion of males increases. The Hindu custom of marrying outside the exogamous group and outside the native village is responsible for the female migration between adjoining districts which is more a feature of the east of the Province than of the Muhammadan west where marriage with near relatives is encouraged rather than prohibited. Apart from these two causes migration is confined for the most part to temporary migration in search of pasture and employment.

Migration between districts and States.

564. As between British territory and Native States the balance of migration is now the reverse of that found in 1891 and 1901, in which latter year the districts gained some 40,000 souls. The present Census shows a gain of 26,000 to the States. Immigration from the States has decreased 5·3 per cent. and emigration from them 22 per cent. The general heavy mortality in the States has contributed to reduce their losses by emigration. The continuous emigration from Patiála has been stayed by the recent development of resources, and instead of losing 80,000 souls as in 1901 its figures for migration almost balance. The irrigation of the Bahawalpur desert has offered inducements to outsiders, and the State has gained some 24,000 souls.

Colony immigration.

565. Special tables have been drawn up to show as far as administrative units permit the immigration into the two great colonies of the west. The proportion of immigrants in the colony population depends mainly on the age of the settlements as the new generation is largely born in the new home.

In the Chenab Colony the population, which includes the non-colony population of the Jhang district, is 1,785,700 persons, of whom 34 per cent. are immigrants from outside. Siálkot has contributed 96,984, Amritsar 81,144, Jullundur 70,847, Montgomery 68,581, Gurdáspur 52,701 and Hoshiárpur 44,234. The immigration from the adjoining district of Montgomery is however of special character and to a large extent of temporary nature. Nearly a quarter of the immigrants are of the menial classes who have accompanied their masters to the colony. Few females come at first, but as the colonists settle down the proportion of female immigrants increases, and there are now 7 to every 10 males: the proportion of child immigrants decreases as a consequence.

The Jhelum Colony is a much smaller affair, and the total number of immigrants is 141,073 only, of whom Gujrát has contributed 30,049, Siálkot 29,257 and Jhang 20,912. The immigration from Jhang and to some extent that from Gujrát also is of the special character ascribed to Montgomery in the Chenab Colony. In this colony there are only 6 women to every 10 men among the immigrants.

The ages of the people.

566. The table in the margin shows the distribution of 10,000 of each sex in the Province. The age statistics of an Indian Census are peculiarly liable to error from mis-statements due to ignorance, to superstition or to vanity, and various devices of manipulation are employed to reduce the error. On the recorded figures, however, the mean age of the total population is 25·2 in the case of males and 24·7 in that of females. Males as a rule

Census.	Sex.	0—10.	10—20.	20—30.	30—40.	40—50.	50—60.	60 and over.
1901 ...	Male ...	2,600	2,144	1,631	1,370	998	651	606
1911 ...	„ ...	2,610	2,104	1,723	1,326	979	657	601
1901 ...	Female	2,715	1,930	1,726	1,402	1,010	621	596
1911 ...	„ ...	2,861	1,846	1,773	1,342	998	611	560

appear to be longer lived than females, but the proportion of female children to the total female population is at present abnormally large. By religions the mean age is highest among the Sikhs, followed by the Hindus. It is low among the Muhammadans and lowest among Christians. The mean age of females among the Sikhs is as high as that of males, but the proportion of female births is unusually low. Among Muhammadans and Christians the proportion of children is high, and among the Christians there are few aged persons. The immunity of the Province from fever in 1909 and 1910 in accelerating the birth-rate has assisted to swell the proportion of the numbers in the earliest of the periods given in the statement, but the effects of plague are very apparent in the other periods; the increase in the age periods 20—30 being due to the comparative immunity of children and especially male children who have recently grown up into this class. This increase is important in its bearing on the recuperative power of the present population.

The civil condition of the people.

567. The figures in the margin give the distribution in the Punjab population of 1,000 persons of each sex, and show that, as in previous Censuses, many males remain unmarried, while the proportion of unmarried females is small. Among females indeed marriage is universal, and out of 10,000 of the total female population 19 only were unmarried at the age of forty or over. Among males the number is 164, the higher number being due partly to the shortage of females and also to admissions into celibate orders. The figures show in a marked degree the effect of plague in attacking the middle-aged rather than persons at the extremes of life The age of marriage is as a rule lower in the east than in the west of the Punjab, but the custom varies in the same locality and in the same religious community, being mainly dependent on social considerations. Child marriage is, however, essentially a Hindu practice. The returns show that per thousand girls between the ages of 10—15 among Hindus 392 were married and 10 widowed, among Sikhs 289, among Muhammadans 216, and among Christians 156. For the age periods 5—10 and under 5 the figures are Hindus 68 and 2, Sikhs 31 and 0, Muhammadan 28 and 1, and Christians 15 and 1.

Civil condition.	Males.	Females.
Single	528	377
Married	388	480
Widowed	84	143
All conditions	1,000	1,000

Polyandry.

568. Polyandry is confined to the Upper Himalayas, *e.g.*, Spiti, Lahul, Saraj (Kulu) and the upper parts of Bashahr and Náhan. In the Rainka, Pawta and Náhan tracts of the latter for example there are 32,288 married men and only 25,082 married women, and in the Rampur, Chini and Delath tracts of Bashahr there are 12,646 and 11,295, respectively.

Polygamy.

569. There are 101 wives to every 100 husbands, and the number of polygamous marriages is obviously rare. Polygamy is indeed mainly confined to the Muhammadans, among whom there are 101·6 wives to every 100 husbands. Among Hindus it is unusual to marry a second wife during the lifetime of the first unless she fails to bear a son, suffers from some infirmity or is unfaithful. Ordinarily a Muhammadan too has only one wife. But, except in the educated classes, if means permit, a Muhammadan will go to the full limit of four.

The proportions of the sexes.

570. There are, in the Punjab, 816 females to 1,000 males, as against 854 in 1901 and 851 in 1891 and 845 in 1881. The previous improvement in the ratio of females which was attributed to improved conditions, moral and material, rather than to improved enumeration, has been thoroughly wiped out by the disastrous mortality from plague among women, although the proportion of female to male births rose to 909 *per mille* compared with 906 in the preceding decade. The figures are to some extent affected by migration, and as males emigrate to countries beyond India in some numbers, while females

do not, the real ratio is probably a little lower than the one given above. The unreliability of age statistics renders any conclusions as to the proportion of females at the various age periods unsatisfactory, but the statistics show that the proportion of females is highest between the ages of 1 and 2 as female infants stand the period of teething better, but the practice of ceasing to nurse the infant girl at an earlier age than the infant boy among other forms of neglect then tells on the female children.

Proportion of sex by religion.

571. The proportion of females to every 1,000 males varies very widely in the different religions; among the Jains it is 850, Hindus 820, Sikhs 746, Muhammadans 833, and Christians 707. Among the Jains the abhorrence of destroying life naturally prevents the neglect of female infants and the prevalence of asceticism among widows apparently tends to longevity. The immigrant Christian population is largely composed of unmarried males. As in the two previous enumerations the Sikhs have a remarkably low proportion of females, and especially so in the early years of life. Owing, however, to the complicated mutual relationship of Hindus and Sikhs and to the return as Sikhs at the present Census of a large number of persons formerly returned as Hindus, it is unsafe to deduce conclusions from the separate sex statistics of the two religions. Similar causes probably affect both communities. The tendency to return Sikh females as Hindus and the conversion of Hindu males to Sikhism among other causes may affect the figures, but the fact remains that low ratios of females of all ages are typical of the Jats of the Central Punjab, among whom Sikhism is the dominent religion. As affecting both religions alike the factor which probably is most operative is the persistent desire for the continuance of the male line of descent. In the Himalayan tract, however, which is mainly Hindu, the proportion of females is high, though even there the females do not exceed the males. The proportion of females among Muhammadans, though low, is higher than that among Hindus. It may be that they do not neglect their female children so much and possibly the female death-rate is kept down by the out-door life which Muhammadan females are compelled to live among this predominantly agricultural community. It is remarkable, however, that the proportion of female births is lower among Muhammadans, being 907 to every 1,000 male births as against 913 among Hindus.

Proportion of sexes by caste.

572. All castes almost without exception have fewer females than males. A tendency for the deficiency of females to be more marked in the higher castes is to some extent obliterated by the fact that a man may in many cases marry a girl of lower caste, while the converse rarely occurs. Where this practice is not followed the proportion of females naturally falls, and among the Hindu Rajputs is as low as 756; whereas among Muhammadan Rajputs, Sayads and Kureshis it is 841, 875 and 896, respectively. The paucity of females is common to all Hindu and Sikh tribes, with the exception of the hill tribes—Kanets 949, Dagis (Kolis) 939 and Ghiraths 916. The low proportion of women among Hindu and Sikh Jats is proverbial. It is 774 among Hindus and 702 among Sikhs as compared with 807 among Muhammadans, and is solely attributable to the neglect of female infant life. In after-life the disparity as between Hindus and Sikhs is to some extent levelled by the admission into Sikh families of Hindu women on marriage.

Distribution by occupations.

573. The distribution of the population according to the four main classes of occupation recognized by the Census is given in the margin. The new classified scheme adopted at the recent Census is exhaustive and divides the occupations into 4 classes, 12 sub-classes, 55 orders and 169 groups. In the first class 58 per cent. of the total population depends on agriculture and an additional 2 per cent. on pasture as a means of livelihood. A further 1 per cent., principally otherwise engaged, is also returned as parti-

Occupation.	Numbers.	Percentage.
I.—Production of raw materials.	14,538,276	60
II.—Preparation and supply of material substances.	7,199,969	30
III.—Public administration and liberal arts.	1,078,163	4
IV.—Miscellaneous ...	1,371,342	6

ally agriculturist. In the second class industry accounts for 20 per cent., transport for 3 per cent., and trade for 7 per cent. In the third class public force and public administration support 2 per cent. and the professions a further : per cent. Under miscellaneous are included domestic servants 2 per cent., general labourers unspecified 1 per cent., and the unproductive class of prisoners, lunatics, beggars, vagrants and the like amounting to 3 per cent. of the whole population.

Industry.

574. The division of labour in the Province has not as yet proceeded very far and classification is difficult. The carpenter for example is often an ironsmith, the shop-keeper a money-lender, and the agriculturist a trader. Cotton still continues to furnish the most important industry of the Province. Some 883,000 souls depend on weaving and 90,000 on ginning and otherwise preparing the material. Neglecting the scavengers who form the next largest body of the artizan classes boot-making supports over 540,000 persons. The other industries which support large bodies of the population are detailed in the statement given in the margin. The vast majority of these people are dependent on the agricultural or cottage industries of the Province. Factories, though they number 443, employ no more than 49,324 persons all told, and it is unlikely that more than 150,000, inclusive of dependants, derive their means of livelihood from work in the factories.

Occupation.	Numbers.
Cotton ginning, spinning, weaving ...	972,899
Carpenters	380 649
Basket makers	104,100
Metal workers	240.096
Potters and brick-makers	349,284
Oil makers	120,650
Rice and flour grinders	113,318
Tailors, embroiderers	151,966
Boot-makers	540,490
Washermen and dyers	177,671
Barbers	271,061
Masons and bricklayers	164,031
Goldsmiths and jewellers	190 892
Scavengers	591,270
Total detailed ...	4,363,377
Total Industry ...	4,915,297

Professions.

575. The professions provide a livelihood for 602,576 persons. More than half of these are enumerated under religion 342,553. Medicine accounts for 49,496, instruction 40,131, and law, including clerks and petition-writers, a meagre 23,046. Of 147,350 persons whose livelihood depends on letters and arts and sciences 128,071 are music players, singers and actors or their dependants.

Literacy.

576. Literacy is now defined as ability to read and write a letter, and by that standard 37 *per mille* of the total population are returned as literate: the proportion among males is 63 and among females 6. The figures are in some measure affected by the high proportion of children among the present population. Eight *per mille* of the males are literate in English or six *per mille*, if Europeans and allied races are excluded. Exclusive of the latter class, only 3,100 females are literate in English and they are almost exclusively either Hindus or Native Christians. The figures for literacy by religions is given in the margin. The backwardness of the Muhammadan population is strongly marked and is of course to a large extent due to the large proportion of persons of this religion who belong to the poorer or more particularly rural classes. The comparatively high proportion of literate Sikh women is a tribute to the efforts of individual workers as for example at Ferozepore. The literacy among Native Christians reflects the importance attached by Christians to the education of women. The vernaculars used by literates are—Urdu 47 per cent., Hindi 17 per cent., and Punjabi 36 per cent. The literate Hindus are returned as using each of these vernaculars in fairly equal proportions. Sikhs employ Punjabi mainly and Urdu in very minor degree, while Muhammadans employ Urdu almost exclusively.

Religion.	Per mille.	
	Males.	Females.
Hindu ...	95	7
Sikh ...	94	11
Muhammadan ...	27	2
Native Christian ...	44	35

Infirmities.

577. The figures in the margin show the numbers in each 10,000 of the population suffering from each of the infirmities recorded at the last two Censuses. The improvement since 1881 is very marked, only 37 persons in 10,000 being now returned as afflicted as against 72 in that year. The improvement is marked in each infirmity. Since 1901 the number of deaf-mutes has increased, but insanity is often confused with deaf-mutism by the enumerating agency, and the latter infirmity showed a considerable decrease at the last Census. The decline in the number of insane allays any suspicions aroused by the increase in the number of inmates in the Lunatic Asylum.

Infirmities.	Number suffering per 10,000.	
	1901.	1911.
Total afflicted	43·5	37·4
Total infirmities	43·9	37·7
Insane	3·5	2·6
Deaf-mutes	8·0	8·4
Blind	30·5	25·5
Lepers	1·9	1·2

Summer Census of Hill Stations.

Measures.

578. A special Census of the summer populations of Simla, Murree and Dalhousie was taken after dark on the 30th June 1911, advantage being taken for the purpose of the staff and arrangements of the general Census carried out earlier in the year.

Simla.

579. In Simla similar enumerations had taken place in 1869, 1878, 1889, 1898, 1904 and 1907, but only the last three could safely be accepted for purposes of comparison. The Census was taken in these cases, as in the present, at a time when the summer population is normal. The present enumeration gives a total normal summer population of 37,895 against the 19,405 recorded at the general Census of the preceding March. The difference between these figures 18,490 represents the summer exodus to Simla. The station appears to have grown steadily in population from 1869 to 1904, the opening of the Simla-Kálka Railway in 1903 assisting appreciably. Since then the development has been slower, the rate of growth being ·14 per cent. per annum.

The population is composed of 3,961 Europeans and allied races, 984 Anglo-Indians, 32,686 Indians and 264 Asiatics. Males number 28,459 and females 9,436. In other words, there are only 33 females to every 100 males. By nationalities the proportions, however, are Europeans 98, Anglo-Indians 109, Indians 27 and Asiatics 26. Thirty per cent. of the population were under 20 years of age. The figures by religions are fairly uniform, the only considerable variation being among the Sikhs, among whom many young boys work as carpenters. Twelve per cent. were under 10: the proportion among Christians being as high as 20 per cent. Thirty-one per cent. were literate, including 19 per cent. literate in English. Among Europeans and Anglo-Indians practically only children were illiterate, but among the Indian population only 23 per cent. could read and write a letter. About two-thirds of the population or 24,964 persons were "actual workers." Of this number about 25 per cent. are in Government service, the number of officers being 308. The balance of the workers are accounted for under trade 7 per cent., transport (coolies chiefly) 13 per cent., domestic service 23 per cent., independent means 2 per cent., and other occupations 30 per cent.

The total number of occupied houses is returned at 7,442. Owing to the adoption of a new definition, under which every building occupied exclusively by one or more families was treated as a separate house, comparison in the Indian quarters with previous returns is impossible. The figures show that on the average each house so defined contains five occupants.

Murree.

580. No such enumeration had previously been carried out in Murree. The population was found to be 16,934 as against the 1,705 recorded

in March. The summer increase of 15,229 is largely due to the presence of British troops in Kuldana, Topa and Ghariál which were included in the Census. Europeans number 5,027, Anglo-Indians 158, Indians 11,726 and Asiatics 23. Males number 12,999 and females 3,935 or 30 females to 100 males. Twenty-eight per cent. of the total population was under 20; among Christians as much as 16 per cent. being under 10. Again 37 per cent. were literate, only 15 per cent. of the Indian population being so far literate as to be able to read and write a letter. As many as 11,642 persons or 68 per cent. (chiefly males) come under the Census qualification of actual workers;' distributed among—Government service 38 per cent., trade 7 per cent., transport 5 per cent., domestic service 27 per cent. and other occupations 23 per cent. Occupied houses defined as explained above number 3,168, the average per house being five.

Dalhousie.

581. The Census included the whole municipal area, and the cantonments of Balun, Tikka, Mankot and Banikhet. A previous Census had taken place in 1898, but extended to the municipal area only. The total population enumerated was 7,592 only, showing a summer increase of 6,010 over the 1,582 enumerated at the general Census. In 1898 the population of the municipality was 3,310 as against 3,949 now,—an increase, for what it is worth, of 639 in 14 years. Europeans number 2,256, Anglo-Indians 25, Indians 5,281 and Asiatics 30. Males are 5,826 and females 1,766 or 30 females to 100 males. Twenty-five per cent. of the population is under 20 and 16 per cent. among Christians under 10. Thirty-eight per cent. are literate, only 17 per cent. of the Indians, however, being able to read and write a letter. The number of actual workers, 5,540, is 73 per cent.; distributed among—Government servants 37 per cent., trade 4 per cent., transport 4 per cent., domestic service 22 per cent. and other occupations 32 per cent. Occupied houses numbered 1,562 and the number of persons per house was, as in the other hill stations, five.

48.—Births and Deaths.

Explanation.

582. It has to be noted that it is the practice to calculate the ratios of births and deaths on the population recorded at the previous Census, and that, therefore, the ratios of the year 1911 are referred to different figures for population from those adopted in previous years. The matter is of importance, as the difference is large in the case of many districts.

As a matter of fact, the actual population by the Census of 1911 exceeded by 180,412, that estimated from the birth and death returns of the previous decade. The difference is about ·9 per cent. At the Census of 1901 the excess was 22,399 only. These results testify to the efficiency of the registration agencies. Much greater differences of course exist between the estimated and actual population of many districts, but these are largely to be accounted for by migration in connection with the canal colonies.

Births.

583. The total number of births in 1911 amounted to 865,775, at a rate of 43·9 *per mille*. Male births exceeded female births by 38,779, an excess of 1·9 per cent. Fever, more than any other cause, reduces the birth-rate and, since the low birth rate of 1909, consequent on the fever epidemic of 1908, the birth-rate has been steadily increasing: the years 1910 and 1911 having been remarkably free from fever. With the exception of Simla, Hoshiárpur, Gurdáspur and Siálkot all districts show an increase in birth-rate compared with their quinquennial average. In the 40 towns of the Province with a population of 10,000 and upwards the birth rate was 42 *per mille*, the figures for the four largest towns being Multán 45, Amritsar 43, Delhi 38 and Lahore 36.

Deaths.

584. The total number of deaths was 671,919, at a rate of 34·05 *per mille*. Even in a year of freedom from malaria a little less than half of the deaths are ascribed to "fevers." Roughly a quarter were due to plague and about one-fifth to "all other causes." Plague, however, was the determining factor of a high or low death-rate in each district. The death-rate in the towns was 39·74 *per mille*. Delhi showing 59·58, Amritsar 38·18, Multán 32·55 and Lahore 29·86, The high rate in Delhi is probably due to plague.

Excess of births over deaths.

585. For the Province as a whole the number of births exceeded the number of deaths by 193,856 or practically 1 per cent. The excess was shared by all districts except Gurgaon, Delhi, Ambála and Hoshiárpur, which suffered considerably from plague, and Simla, the conditions of which are special. The greatest excess was observed in Lyallpur as usual and in Jhang, districts to which the recent extensions of canal irrigation has attracted a young healthy population.

Mortality.

586. A feature of the year 1911 is that October, usually the most unhealthy month, owing to the freedom of the Province from malaria, showed the lowest monthly death-rate. This unhappy distinction is accorded this year to the month of May closely followed by April, in both of which months plague was rampant. As usual, the mortality among infants under one year was the highest of the age mortalities, though, for what the figures are worth, it may be recorded that for males the rate has been reduced from 270 *per mille* in 1901 to 206·86 now and for females from 279 to 196. It may be noted that the female infant mortality is now less than that of males. The death-rate among Hindus was 36·84 *per mille* and among Muhammadans 31·91.

Cholera.

587. The mortality from cholera except in Siálkot was unimportant. The outbreak in this district was due to infection disseminated from the Gulu Shah cattle fair. Steps are being taken to improve the sanitary condition of the shrine, at which the fair takes place, and its surroundings.

Small-pox.

588. The mortality from small-pox, though larger than in the previous year, calls for no comment, except that the epidemic in Lahore caused a good deal of alarm locally and led the people to resort more freely to vaccination.

Plague.

589. The annual epidemic of plague was considerably more severe than in 1910, and 175,668 deaths are reported to have occurred in the British districts. The districts that were most severely stricken were Siálkot, 16,967 deaths, Amritsar, 15,958, Gurgaon, 15,611, Hoshiárpur, 14,784, and Gurdáspur, 14,572; the severe infection of Hoshiárpur, which has suffered for fourteen years, shows that there is at present no sign of the natural disappearance of the disease. Delhi city suffered a moderately severe outbreak in the spring, and Rawalpindi city became infected in April and suffered up to the end of the year; cities, however, as a rule, continue to show a less severe plague incidence than villages. The chief mortality occurred in April, May and June, due, it is believed, to the heavy general rain about the middle of March and consequent great increase in flea prevalence. In addition the appearance of a temperature of 85° Fahr., which coincides with the end of the active plague season, was greatly deferred. During the hot weather plague practically died out, but in the autumn a recrudescence occurred in 39 villages, where no evidence of importation could be elicited.

Malaria.

590. Fevers accounted for 302,417 deaths at a rate of 15·33 *per mille*, the lowest recorded since 1877. Following on a year itself comparatively free from malaria, the reduction of 40,000 in the mortality is striking. Under the head of "fevers" are classed many forms of sickness other than malaria, but it is probable that this reduction was obtained wholly under this special disease.

Other causes.

591. Dysentery and diarrhœa occasioned 11,713 deaths and diseases of the respiratory organs 45,294. To injuries 6,762 deaths are ascribed and 124,104 to "all other causes." These figures do not present any special features.

49.—Emigration and Immigration.

Indentured emigration.

592. Figures for indentured emigration carried on under the Indian Emigration Act (XVII of 1908) are published annually by the Government of India. The number of Punjabi emigrants is quite insignificant. In 1910-11, 149 left Calcutta, 108 Bombay and 75 Karáchi. In the last two cases the destination is the Persian Gulf ports. From Calcutta it is believed the emigrants proceed chiefly to British Guiana, Natal, Fiji and Trinidad.

The Inland Emigration Act of 1882 is not in force in this Province.

Other emigration.

593. Complete figures for emigration not controlled by the State are not available, though some statistics were collected at the recent Census. Figures for European countries, South Africa and Australia in particular have not been

obtained. In the countries for which figures have been received 4,542 Punjabis were enumerated, of whom 1,197 were in Hong Kong, 983 in Ceylon, 985 in the Straits Settlements, and 809 in Fiji. The total Punjabi emigration is of course very imperfectly represented by these results. Punjabis serving in the Army outside India on May 1st, 1911, numbered 2,218.

Immigration.

594. The number of immigrants from countries beyond India is 54,267, of whom 29,865 came from other Asiatic countries, almost entirely from Afghanistan, 23,906 from Europe, 122 from Africa, 267 from America and 107 from Australia. The immigrants from Afghanistan are composed of Pathans serving in the Army, Pawindahs working as labourers or petty traders, and Afghan refugees and their servants. Out of 23,311 immigrants from the United Kingdom, 18,596 confessed to hailing from England and Wales, 2,915 from Ireland, and only 1,719 from Scotland.

50.—Medical Relief.

Dispensaries.

Number of hospitals.

595. The number of dispensaries open at the end of the year 1911 amounted to 465, of which one was classed as State public, 266 as Local Fund and 35 as private-aided institutions. These three classes account for 302 of the total number. In addition there were 72 canal, 31 police, 45 railway and 3 "other" State institutions and 12 private non-aided hospitals. The Local Fund dispensaries were increased by three during the year, but two private institutions were closed. The figures given in the following 5 paragraphs relate to dispensaries of the first three classes above enumerated, 25 of which are for the treatment of female patients only.

Patients.

596. The total number of patients treated amounted to 4,097,749; some 200,000 less than in the previous year, the freedom of the Province from malaria having reduced the malaria patients by that amount. In-patients were only slightly less than in 1910 and amounted to 74,884, an encouraging feature being the increase in the number of female patients. Accommodation is, with a few notable exceptions, generally sufficient, and attention is being paid to the necessity of providing for the separate treatment of women in the few dispensaries where there is at present no such provision. The effect of the healthiness of the year is apparent in the figures for out-patients, which fell to 4,022,865. It is suggested that the increase in the number of private practitioners in the larger towns also contributes to the decrease in the out-patient department. With the exception of the decline of malaria the incidence of disease was much the same as usual.

Surgery.

597. The total number of surgical operations was 233,637, of which 25,817 were "selected," being an increase on the previous year's figures of 13,543 and 1,039, respectively. The death-rate was 18 only.

The selected operations include 11,564 for the extraction of the lens. Of the 10,005 persons who were operated on, 9,252 gained good vision, giving a percentage of 92·47. Amputations accounted for 576, with 27 deaths; stone in the bladder for 2,015, with 72 deaths; hernia for 262, with 14 deaths; abscess of the liver for 110, with 16 deaths; abdominal sections for 67, with 11 deaths; ovariotomies for 50, with 9 deaths; and Cæsarean sections for 32, with 18 deaths.

The noteworthy record is reported that Lala Mathra Das, Sub-Assistant Surgeon, at Moga, in Ferozepore district, performed no less than 2,873 selected operations, including 2,534 for cataract.

Finance.

598. The total expenditure of the year amounted to Rs. 11,79,186, half of which was spent on salaries and approximately Rs. $1\frac{1}{2}$ lakhs on buildings or repairs. This was met by district boards (34 per cent.) and municipalities (36 per cent.), Government, chiefly in Lahore and Simla and on grants-in-aid (12 per cent.), subscriptions (12 per cent.) and miscellaneous sources (6 per cent.). The subscriptions, however, were mostly received from abroad for Mission institutions for females.

Abuse of dispensaries.

599. The tendency for those who can afford to pay for medical attendance to seek free medical relief at institutions maintained for the poor and needy, is one that it is desirable to check; and in some cases fees are charged to well-to-do patients in dispensaries. It is possible that those who can afford

to do so prefer to pay fees to a private medical practitioner rather than to the dispensary. If this is actually the case, the tendency can be regarded with satisfaction, as there is plenty of field for the activities both of public and private medical practitioners.

Mayo Hospital.

600. The foundation stone of the Mayo Hospital extension, which forms part of the Punjab King Edward Memorial, was laid by His Honour Sir Louis Dane, G.C.I.E., on the 21st December 1911, and it is expected that the work will be completed before the end of the year 1913.

Special dispensaries.

601. The total number of in-door patients treated in the 151 special dispensaries was 5,716. The majority were accommodated in the police hospitals, the canal dispensaries rarely having in-patient accommodation. Out-patients numbered 426,110, mainly in canal and railway hospitals. The total number of patients was 431,826, or 21,198 less than in the previous year. The Irrigation Department is being consulted on the subject of opening canal dispensaries to the general public. It is obviously to the advantage of the people that the district boards should obtain for them facilities of treatment at conveniently situated canal dispensaries, while the additional practice thereby obtained must increase the experience and usefulness of the Sub-Assistant Surgeons in charge.

Unaided dispensaries.

602. At the 12 private non-aided dispensaries, which have submitted returns, 66,604 persons were treated and 2,681 operations were performed.

Pasteur Institute.

Progress.

603. The work of the Institute continues to increase, and the anti-rabic treatment is increasingly resorted to by the Indian population. During 1911 2,268 cases were treated with a total death-rate of 1·9 per cent., of which, however, only a percentage of 0·6 are accounted "failures," death having occurred later than 15 days after the end of the 18-day course. Owing to the location of the Institute, a larger number of patients treated come from the Punjab than from any other Province.

The Pasteur Institute is employed as the provincial laboratory of the Punjab, and as such reported on 669 specimens during 1911. The principal work performed was serum diagnosis for typhoid, Malta or paratyphoid fever; examination of tumours and examination of brain for Negri bodies.

Leper Asylums.

Lepers.

604. No information regarding leper asylums is given in this year's report. A new Asylum is being built at Subáthu (Simla Hills).

Lunatic Asylum.

General conditions.

605. The number of inmates steadily rises. In 1911 the total population was 841 and the average daily attendance 635. The increase is explained to be due not to any general increase of lunacy, but to the asylum and its benefits becoming more widely appreciated, and indeed the majority of the patients still come from the neighbouring districts of Lahore, Sialkot and Amritsar. Only one-fifth of the inmates are females, a reversal of the usual rule in Europe, due to the objection felt to placing female relatives in any institution. Again the number of criminal lunatics amounts to about one-fifth of the whole. The use of Indian hemp in one form or another was the chief cause of those cases which had a physical origin: and it is noted that the great majority of admissions is of persons between 20 and 40 years of age.

Improvements

606. The comforts and amenities of the institution are steadily improved as funds allow. In the new hospital, with accommodation for 186 patients, opened in 1909 it is now possible to segregate efficiently all patients suffering from infectious diseases and at the same time the previous overcrowding in the male asylum has disappeared. It is claimed that the lunatics are as comfortable as they can be made, and they are immeasurably better off than in their own homes, where the only idea of treatment is to bind the patient hand and foot and keep him a close prisoner liable to be bled at frequent intervals or branded with a hot iron on the vertex of the skull, when more noisy than usual. For such as can be employed suitable work is provided: chiefly blanket and cloth weaving, gardening, munj-matting making, grass-cutting and domestic services, nor are amusements forgotten.

Cost.

607. The total cost of the asylum, including Rs. 16,248 for work done by the Public Works Department, was Rs. 1,26,495 : of which Rs. 7,747 were provided by paying patients, Rs. 6,600 by the asylum manufactories, and Rs. 893 from miscellaneous sources. The net cost, Rs. 1,11,254, was defrayed in the first instance by the State, but contributions were obtained from municipal and district boards on account of the cost of their patients.

Malaria Investigation.

Malaria.

608. Increasing attention has been shown throughout India in late years to the prevention and treatment of malaria, and, as a result of the Imperial Malaria Conference of 1909, a special investigation has been instituted in the Punjab, which is the most malaria-stricken of the Provinces. Lieutenant-Colonel Adie, I.M.S., one of the Civil Surgeons of the Province, widely recognised as an authority on malaria, was entrusted with the investigation as Chief Malaria Medical Officer in 1910, and much information has been collected. The appointment, which was sanctioned for a period of two years, has recently been extended for a further similar period. As a branch of the work, an investigation was undertaken in the Lahore jails into the action of the various salts of quinine, and for this purpose Assistant Surgeon Harnam Singh was specially deputed to assist Lieutenant-Colonel Adie. A report on this investigation has been received. The Chief Malaria Medical Officer has not as yet made public the results of his main investigations.

51.—Sanitation.

Municipalities.

609. The income derived from the sale of street sweepings in 1911 amounted to Rs. 1,45,260, the largest sums being realised in Amritsar, Lahore, Siálkot, Delhi and Gujránwála. The sales are reported to be adversely affected by the use of patent brick-kilns burning coal. Several municipalities dispose of sewage to cultivators and obtain income from the price paid for sullage. The area under sewage irrigation amounted last year to 1,250 acres and the income realised to Rs. 19,987, an increase of 84 acres and Rs. 1,422, respectively, on the figures for the previous year. Amritsar, Lahore and Delhi make most use in this way of sewage, the amounts obtained amounting in the case of these municipalities to Rs. 6,862 in Amritsar, Rs. 4,942 in Lahore and Rs. 3,039 in Delhi.

Out of an aggregate income for the year 1911-12 of some Rs. 71,46,000, the municipalities spent some Rs. 27,85,000 on objects included in the term sanitation, *viz.*, on conservancy Rs. 8,84,000, water-supply Rs. 8,40,000 (including Rs. 4,64,000 capital outlay), drainage Rs. 4,05,000 (including Rs. 3,08,000 capital outlay), and Rs. 6,56,108 on roads.

District boards.

610. District boards expended Rs. 8,800 on sanitation, Rs. 13,323 on water-supply and Rs. 4,546 on drainage works.

Rural sanitation.

611. During the year 4,811 wells were cleaned and 662 parapets constructed at a total cost of Rs. 30,080. In the direction of rural sanitation little else has as yet been effected. An attempt to introduce and maintain village sanitary note-books has met with little success. Rewards offered for village sanitation evoke no enthusiasm and can seldom be awarded, while the special rewards offered in the Chenab Colony have been obtained by all the villages which could be considered entitled to them and have now been withdrawn.

Fairs.

612. The extension of railway communications in the Province is leading to a large increase in the size and importance of fairs held at spots hitherto at a distance from the railway. This is particularly the case with the Nankana Sahib fair in Gujránwála and the Baba Faríd fair in Montgomery. The importance from a sanitary point of view of these huge fairs is that they so often form a focus of an epidemic of cholera, as in the case of the Gulu Shah fair last year and of the Hardwár and the Katas fairs on more than one occasion. The sanitary supervision of these fairs engages a considerable amount of attention from the Sanitary Department, and the voluntary efforts of Rai Bahadur Dr. Thakur Das in Jhelum are specially brought to notice.

Sanitary Board.

613. The Sanitary Board met four times in 1911, but was unable to allot during the financial year 1910-11 as much as Rs. 1,11,526 out of the annual allotment of Rs. 1½ lakhs, owing to suitable schemes not being ready for consideration. Better results have been obtained in the financial year 1911-12, and practically the whole grant has been utilised. The only grant made in excess of Rs. 10,000 during 1911 was one of Rs. 16,914 to the Amritsar municipality for its sullage scheme.

Sanitary works.

614. Of the important works in progress during the year, the Amritsar sewage disposal scheme, the Gujrát intra-mural drainage works, the Pattoki (Lahore) drainage and water-works, and works of a similar nature at Jaranwála (Lyallpur) were actually or practically completed, and progress was made with filling up the depressions (*dhábs*) at Amritsar, with the Simla water-works extension and with the Delhi suburban drainage works and clearance of the river frontage (*bela*). Estimates for a water-borne sewage system for Lahore, for a water-supply for Siálkot and for an improved water-supply for Chorutta (Dera Gházi Khan) also were prepared and submitted.

Tube wells.

615. For the past four years experiments have been made under the orders of the Local Government for increasing the supply of water in wells by sinking tubes. These have been very successful. Where a sub-artesian spring exists a simple tube is most efficacious. In the more common case of percolation wells strainer tubes have been devised by Mr. Ashford of the Canal Workshops and Mr. Brownlees, Municipal Engineer, Amritsar, which yield a large and constant supply of absolutely pure water taken from a considerable depth below the surface. These discoveries go far to solve the problem of a good drinking supply for this Province.

Sanitation at Delhi.

616. The Sanitary Engineer was in immediate charge of the Delhi Durbar water supply works and other miscellaneous engineering works of similar nature at Delhi, for his successful execution of which Mr. Aikman was accorded the honour of a C. I. E.

52.—Vaccination

Work of staff.

617. The prevalence of small-pox in the towns of Delhi and Lahore and the districts of Jhelum, Delhi, Miánwáli and Ráwalpindi led to an increase during 1911-12 in the number of persons vaccinated and of operations performed, which amounted to 882,844 and 892,289, respectively. About one-fifth of the operations were re-vaccinations, and four-fifths primary vaccinations. The percentage of success achieved was 95·03 in the case of primary vaccinations and 71·85 in re-vaccinations. In explanation of a decline in the percentage of success, it is stated that certain difficulties, which are receiving attention, have been recently experienced in the preparation of lymph at the vaccine institute.

The experiment of house-to-house vaccination has been discontinued generally, owing to its unpopularity and costliness. It will be continued only in places where there is a distinct demand for it and where either it can be carried out without any increase of cost or the local authority is prepared to meet the extra cost.

Cost of vaccination.

618. The total cost of the department, including the pay of the Deputy Sanitary Commissioner and Superintendent, Vaccine Institute, amounted to Rs. 1,24,320, contributed by the Provincial Government (Rs. 40,537), district boards (Rs. 64,494 , municipalities (Rs. 16,778), and cantonments (Rs. 2,516). Some additional expenditure was occasioned on increased establishment and under contingencies of the institute. The average cost of each successful operation was 2 annas 8 pies, the increase in the total number having led to a reduction. Rupees 12,986 were obtained by the sale of vaccine, and if this is taken into consideration, the average cost is 2 annas and 4 pies only.

Vaccination in towns.

619. In towns in which the Vaccination Act is in force the percentage of children under one year of age and available for operation who were successfully vaccinated was as high as 86, the corresponding figure for other towns being 64.

Vaccination in Native States.

620. Vaccination further increases in popularity in the Native States especially in Patiála and Bahawalpur.

Vaccine Institute.

621. A new institute is being built on the site of the old Thagi jail at Lahore, in which it has been for some time located. The Institute is called upon to supply not only the Province and its Native States, but the North-West Frontier Province, Baluchistan, Kashmír and even Nepal and Afghanistan, as well as military medical officers both in and out of the Punjab. It is confidently expected that the new Institute will be able adequately to meet the increasing demand for lymph.

CHAPTER VII.

INSTRUCTION.

Detailed information on the subjects dealt with in this Chapter will be found in the report and statistical tables noted below :—

PROVINCIAL REPORTS.

Education.—(1) Report on the Progress of Education in the Punjab during the quinquennium ending 1911-12.

(2) Report on the Operations of the Department of Agriculture, Punjab, for the year ending June 30th, 1912.

(3) Annual Report of the Punjab Veterinary College and of the Civil Veterinary Department, Punjab, for the year 1911-12.

Arts and Sciences.—Report on the working of the Lahore Museum for the year 1911-12.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Education, Literature and Press.—Statistics of British India, Part III, Educational.

53.-GENERAL SYSTEM OF PUBLIC INSTRUCTION.

HISTORICAL.

Establishment of the Education Department.

622. The Department of Public Instruction in the Punjab was instituted in January 1856, and the first Annual Report of the Director, the late Mr. W. Arnold, was submitted shortly after the outbreak of the Mutiny in the year following. Education, however, had occupied the attention of Government ever since the annexation, and at the time when the Department was organised there were 34 schools maintained from public funds, and 12 Mission schools, most of which were in receipt of grants-in-aid.

The Educational Department was administered at first by a Director, 2 Inspectors of Schools, 10 Deputy Inspectors, and 60 Sub-Deputy Inspectors. The schools directly supported by Government consisted of 24 District (Zillah) Schools, 100 Tahsil Schools, and 4 Normal Schools. A cess of 1 per cent. on the land revenue was devoted to the maintenance of a large number of village schools. In addition private schools were encouraged to conform to the standards of the department and submit to inspection by Government officers through the system of grants-in-aid. The Department so constituted cost about Rs. 3 lakhs per annum.

Existing Indigenous Education.

623. Mr. Arnold's first step was to ascertain what the people had been doing themselves in the way of education. The idea of education was not new in the Punjab. A school phraseology was supplied chiefly by the Muhammadans, who as educators were in possession of the field. Not only was the Koran taught in every mosque, but outside a great many mosques the standard Persian works were taught to all comers. These Persian Schools were the most genuine educational institutions in the country, and formed the foundation of the existing Government vernacular school system. The teachers were almost exclusively Muhammadans, but among the pupils the Hindus were more numerous than the Muhammadans. Schools in which only the Koran was read by rote, and those in which the children of shopkeepers were taught arithmetic and book-keeping, were left out of consideration as

educationally worthless, and little more account was made of purely Arabic and Sanskrit Schools, in which young men and boys were trained for religious functions. The statistics of Gurmukhi Schools, which were chiefly of a religious character, were too imperfect to be of much assistance. Real Hindi Schools were very rare, and most of those returned as Hindi Schools were chiefly of the class described above for the benefit of shopkeepers or Brahmans. The average income of the teachers was found hardly to exceed Rs. 2 a month in cash, but offerings in kind and fees for performing religious ceremonies formed a material addition to their means of subsistence.

The institution of a Government Department of Education did not directly interfere with these private, or, as they are technically described, indigenous schools, and up to 1885 they were left very much to themselves by the department, though of course they suffered in competition with the better equipped and more practically useful public schools.

Adoption of the Urdu language.

624. It was resolved from the first to make the Urdu language and the Persian alphabet the one language and the one alphabet in Government Schools, the Urdu language being chosen as more than any other dialect the common vernacular of the Province, and the Persian character, inasmuch as it was said to be used almost exclusively by the population of the western half of the Punjab, and in nearly two-thirds of the indigenous schools of the eastern districts. Besides which, the Urdu language written in the Persian character was used in the Courts, and was the most general medium of communication in the business transactions of all classes, except in matters pertaining to their particular trades and occupations. At the same time Hindi Schools were to be encouraged wherever the people desired them, in view of the danger of throwing education entirely into the hands of the Muhammadans.

Question of the application of the Educational Cess and of opening Female Schools.

625. It was a question whether the 1 per cent. cess should be spent in aiding existing village schools, or in maintaining schools entirely under the control of the Department, each of which might serve for a cluster of villages; but when it appeared that the people held the payment of the cess as an acquittance of all claims upon them for the education of their children, the latter system was chosen by preference. It was intended at first that the establishment of schools for girls should be deferred until the new Department was in working order; but much interest was excited by the accounts received from the United Provinces of the progress of female education, and in the first year several schools were opened in the Punjab, and were believed to be in a satisfactory condition, although the visits of European officers were not allowed.

Changes in 1860 in the system of administration.

626. Such was the origin of public instruction in the Punjab, and its subsequent history has followed the lines then traced out. In 1860, however, an important change was made in the system of administration. It had been a moot point whether the management of the Cess schools should rest with the Educational or District Officers, but during the first few years the practice of the United Provinces was followed, by which schools of all kinds were under the direct control of the Department. The practical severance of the District authorities from the work of education obviously entailed a serious loss of power, and so much dissatisfaction was caused that the Vernacular schools, which formed the great majority, were transferred to the charge of the Deputy Commissioners. At the same time the Native Deputy Inspectors were dismissed, or employed on reduced salaries as School Muharrirs, and an attempt was made to entrust the subordinate control and inspection of Vernacular schools to the Tahsildars. The necessity for professional superintendence, however, soon became apparent, and eventually each district was provided with a District Inspector or Chief School Muharrir who was subordinate to the Deputy Commissioner and whose business it was to visit and inspect every school in his charge once a quarter, to maintain discipline, to appoint, transfer, or promote teachers, and generally to be the Deputy Commissioner's principal executive agent in the management of the schools.

627. In 1862 an enthusiastic movement was initiated in favour of female education, and a grand Durbar was held at Lahore under the presidency of Sir Robert Montgomery, the Lieutenant-Governor, for the purpose of enlisting the co-operation of the Chiefs and other Native gentlemen of the Punjab. Under this impulse hundreds of schools were opened, and in 1866 the number amounted to about 1,000, with 20,000 scholars. But it was easier to create a nominal attendance than to obtain any substantial results, and before long, in consequence of necessary reforms, there was a very considerable reduction. There is no reason to doubt the wisdom of the change of system which led to diminished numbers; but it may be regretted that there was so little foundation for an enterprise which at one time seemed to promise well. *Encouragement of female education.*

628. In 1864 Government Colleges were established at Lahore and Delhi. At the latter place there had been one before the Mutiny, which had since then been in abeyance. In 1865 the Anjuman-i-Punjab was founded, and in connection with it a scheme was originated for establishing an Oriental University. The proposed institution has since developed into the Punjab University. Between 1868 and 1879 a change of considerable importance was made in the status of village school masters. In 1859 their pay had been fixed in grades of Rs. 5, Rs. 7 and Rs. 10 per mensem, and, although these grades had not been rigidly observed, they represented the average scale of pay up to 1868. It was now determined that no teacher, excepting assistants, should draw less than Rs. 10 per mensem, and, as the time was unfavourable to proposals for increased expenditure, the result was that some 300 schools were closed and 10,000 scholars struck off the rolls. *Progress to 1871.*

629. Educational effort was greatly benefited by the Punjab Local Rates Act of 1871, the general effect of which in the course of the next few years was to double the amount hitherto received from the Educational Cess, which now became merged in the District Fund, and thus to increase largely the means at the disposal of the new district committees for the education of the agricultural class. The transfer of the direct control of village schools to the district committees was adopted as a further measure of decentralization. Meanwhile, increased assignments were made by the municipalities, and in 1873-74 the numbers on the rolls of village schools exceeded by 20,000, the lowest figure reached in 1869-70 after the reduction described above. At the same time by raising the pay and position of teachers and of inspecting officers in the subordinate grades, a further step was made towards the improvement of the general efficiency of the schools. *Effect of the Punjab Local Rates Act, 1871.*

630. The Middle School Examination, to test the proficiency of the scholars midway between the Primary and Entrance Standards, had been instituted in 1869; and in 1872-73 the first examinations by the Upper and Lower Primary Standards were held by the Inspectors. The classification of schools according to stages of instruction was gradually introduced during the next few years; and in 1879-80 a revised set of statistical forms was adopted under the orders of the Government of India. Under the new classification, a school which had hitherto been called a High School, with its high, middle and primary departments, was now treated in the returns as three separate schools—a High School, a Middle School and a Primary School. Similarly a Middle School was returned as two schools; and in this way the number of schools was nominally raised by upwards of 100, an error which was corrected by the statistical forms subsequently adopted on the recommendations of a Sub-Committee of the Education Commission appointed for the purpose. In 1877 the Government College at Delhi was abolished, with a view to having a fully equipped College for the province at Lahore. In 1875 the Mayo School of Industrial Art was established at Lahore, and in 1881 the Central Training College for the supply of trained teachers for English Schools and for Secondary Schools. The disorganization of society by epidemic fever is of frequent occurrence in Northern India; and between 1877 and 1880 education was seriously checked by this cause, and also by an extraordinary demand for labour during the Afghan War. The numbers returned as under instruction were *Progress subsequent to 1871.*

further reduced by the omission of Jail Schools from the new statistical tables. The period was one of steady improvement in the internal organization of the schools and in the character of the instruction imparted; but there was not that extension of education among the people that might have been expected, notwithstanding a considerable increase in expenditure. It was left to the next decade to witness a marked expansion of educational effort in the Punjab, carried forward on improved lines, and attended with the best results.

Recommendations of the Education Commission.

631. The Education Commission of 1882 marked a new era in the history of education in India. The whole educational system then prevailing was carefully considered in all its bearings; detailed recommendations of a practical character were made under every head; and these recommendations have not only formed the basis of a new departure in matters of public instruction, but continue to supply lines for guidance in all parts of the educational movement. The chief recommendations concerned the recognition and encouragement of Indigenous Schools so far as these can be made to serve any purpose of secular education; the need of increased efforts in favour of the extension of Primary Education; the rendering of Secondary Education less stereotyped, as well as more practical, than it had hitherto been; the revision of the system of scholarships so as to make them open to all students without restriction; the raising, gradually and cautiously, of the tuition fees up to a certain point; some modification of the grant-in-aid rules; facilities for the transfer of Government institutions to local management; the moral training and physical development of the students; the encouragement of Female Education; an increased inspecting agency; and the holding of conferences for the discussion of questions affecting education. The recommendations were generally adopted in the Punjab, which resulted in an all but complete reorganization of the Educational Department and of the educational machinery of the province.

Chief measures adopted.

632. Rules were laid down for the award of grants to Indigenous Schools according to various simple standards; and all public officers were required to bring to notice any schools that appeared suitable for a grant, if desired by the managers. In 1886-87 an allotment of over Rs. one lakh from provincial revenues was provided for the extension and improvement of Primary Education; and a number of Zamindari Schools, intended to meet the special simple requirements of the agricultural class, were opened in nearly very district. In the same year all schools for general education, situated in municipalities, with the exception of the Model or Practising Schools attached to Training Institutions, were transferred to the management of Municipal Committees, and rules were laid down with the view of affording every encouragement to their conversion into Aided Schools, when adequate guarantees of efficiency and permanency were available. Rules were framed making the further extension of Secondary Education ordinarily dependent on contributions from private sources. To give greater variety to the studies in Secondary Schools, a Clerical and Commercial Course was adopted by the Punjab University as alternative with the ordinary Entrance Course, and leading to office and business occupations rather than to continued University studies, and also a Special Science Course, fitting either for further scientific study or for some technical line of life. The rules for scholarships were entirely re-cast in conformity with the principles laid down by the Education Commission, Open Scholarships being awarded on a system common to the whole province, and Close Scholarships on more restricted conditions, but the award being in each case according to merit, and on the results of public examinations. Provision was also made for the encouragement of higher education amongst certain backward classes by founding the Jubilee Scholarships for Muhammadans and Zamindari Scholarships for Hindu agriculturists. New rules for the levy of fees were introduced in 1886, aided institutions being required to fix their rates at not less than three-fourths of those laid down for Government and Board Schools. The grant-in-aid rules were entirely re-cast in 1886, embodying the system of payment by results. Special attention was given to the subject of moral instruction and school discipline, and measures were adopted, including special instructions to Inspectors and Teachers and the

introduction of inter-school rules and of Good Conduct Registers, to secure the end in view. Great improvements were made in the arrangements for physical training. Gymnastic apparatus has been supplied to all the larger schools; gymnastic teachers have been attached to the Training Institutions, to other individual schools, and as itinerant instructors in districts; play-grounds have been provided; tournaments have been organized; and courses of instruction in athletics and elementary drill have been laid down for the various classes of schools. In 1886 a fifth circle of inspection was organised; additional Assistant Inspectors were appointed; considerable improvement was effected in the position and prospects of District Inspectors; and in these and other ways the efficiency of the inspecting staff was largely augmented. In 1889 an Inspectress of Schools was appointed, the grant-in-aid rules specially providing for the encouragement of Female Schools; and the institution of scholarships for girls on passing the Lower Primary and Upper Primary Examinations exercised a marked influence on the attendance in the higher classes. Educational Conferences have been held frequently since 1886, at which all matters affecting educational work in the province have been discussed; and it would be difficult to over-estimate the benefit to practical education of these meetings, or their advantage in furthering the educational policy of the Government.

Progress to 1892.

633. Besides the measures sketched in the last paragraph, considerable progress was made in other directions in the years following the Education Commission of 1882. Two new Normal Schools were opened providing one such institution for each inspectional circle, and the Model Schools attached to the training institutions were placed on an improved footing. Permanent employment in a Government or Board School was made conditional on the possession of a Teacher's Certificate, and the grant-in aid rules ensured the continued employment of none but certificated teachers in aided schools also. A beginning was made with the training of female teachers in the formation of normal classes in several girls' schools, and a certificate examination for female teachers was instituted. In 1886, in furtherance of the policy of local self-government all the district (Zillah) schools were transferred to the management of municipal committees as already noted, but this devolution of control was not so successful as was anticipated, and control was resumed by the Education Department 18 years later. In furtherance of Technical and Industrial Education, the staff of the Mayo School of Art, opened in 1875, was strengthened by the appointment from England of a Vice-Principal. The Railway Technical School at Lahore was opened in 1889, and has been attended with marked success: courses of instruction were prescribed for Industrial schools and rules framed for the award of grants to aided Industrial schools. The Aitchison College, known at first as the Punjab Chiefs' College, was established in 1886, and its success evidences the appreciation of a good education among the Chiefs and gentry of the province. The rules of the department were incorporated in a Punjab Education Code which became a compendium of the whole educational system of the province. The Middle School Examination was made over to the University in 1884, having hitherto been conducted by the Educational Department, but this step has since been retraced.

Progress to 1902.

634. Quiet but speedy progress continued during the next decade. The reorganization of the Educational Department increased the attractions of the service generally. Superior and subordinate services were established, the former consisting of the Indian Educational Service recruited from England and of the Provincial Educational Service recruited in India. The extension of the system of school post offices added small allowances to the meagre pay of the village school master. The adoption of the science and clerical and commercial courses for High Departments broadened the scope of educational activity. Elementary agriculture, practical mensuration and land records were introduced into the school courses, and special attention was devoted to physical training, school singing and drawing, to object lessons in primary schools and needlework in girls' schools. In European schools, in the interests of efficiency, the system of basing grants on the average attendance was

introduced instead of on examination results. It was found possible to improve the quality of the teaching staff by raising the standard for admission to the Central Training College to the Intermediate and B.A., respectively, for the Junior and Senior English Classes. A manual on school method was prepared for Normal Schools and the Kindergarten system introduced into the course of study at such schools. Stipends were provided for girls who had passed the Entrance Examination and wished to undergo training as teachers. Elementary standards in common handicrafts were adopted for use in the industrial sections of aided indigenous schools and more elaborate courses in repoussé work, tin work, &c., for advanced technical schools. The status of the Law School was raised to that of a College. The University Sports Tournament was organised. The Inspecting officers were released from the duty of holding Lower Primary and Infant Standard Examinations and were enabled to look more closely into the organization, discipline and management of schools. The process thus begun has since been greatly developed.

Progress to 1912.

635. In the last ten years progress has been rapid and continuous. In 1904 a sixth Circle of Inspection was formed and a second Inspectress and two Assistant Inspectresses of girls' schools were appointed, while, to permit of a more thorough supervision of primary education Assistant District Inspectors were appointed in the majority of districts. Subsequently in 1908, to bring the work of the Department into closer touch with the administration and to enable Commissioners to discharge their growing responsibilities in regard to education satisfactorily, the Circles of Inspection were abolished and Inspectors appointed to each administrative division; the Inspector of European Schools assisting in the heavy Lahore division. In 1904 it was decided to bring back under departmental control and employ as a model for the other schools of the district the secondary schools at district head-quarters, the management of which by the municipal committees had been far from satisfactory, and a beginning has been made in the recovery of the leeway lost by years of neglect and starvation. The change has had a beneficial effect on the development of higher education. The action taken in the province upon the Indian Universities Act of 1904 is noticed elsewhere. The affiliation to the University of the Central Training College and the institution of the degree of Bachelor of Teaching were measures calculated to improve the qualifications of the teaching staff of the province. The abolition in 1905 of the Middle School Examination in Anglo-Vernacular Schools, though adopted in the best interests of education as freeing secondary education from the domination of a public test, was accepted by many educationalists with much misgiving as throwing too much responsibility on Head Masters who were charged with the decision whether a boy should proceed to the High School or no. The approval of the Inspector is, however, still necessary. This reform, together with the abolition of the upper primary examination in all schools, has given much relief to the inspecting staff. As a consequence grants to aided schools on individual results were abolished and block grants on the average attendance of the previous five years substituted. The Middle Examination in vernacular schools, in which further education is not provided except in the Oriental College at Lahore, has been of course retained. The conduct of the examination was retransferred in 1906 from the University to the Education Department.

The system of zamindari schools introduced in 1886 had proved a failure principally because the schools did not lead to higher education, a fatal defect where education is not as a rule sought as an end in itself; and a scheme of "rural" primary schools has been introduced, from which this defect is removed, more suited to the needs of the agriculturist than ordinary or town primary schools. The zamindari schools have been gradually merged in these "rural" schools. There is, however, no room in the country side for two types of primary school and the two courses are now taught in the same school. Since 1905 an enormous impetus has been given to primary education by the large recurrring grant for the purpose made by the Government of India, and 700 new primary schools were opened in that year, but how far the province is as yet from the goal of free and universal primary education is shewn by the calculation that the cost of such a measure, inclu-

ing the inspecting agency and provision of normal schools, would be little less than a crore of rupees. In fostering primary education at present Government cannot afford to dispense with private effort, and the encouragement of such enterprise is one of the principles of education policy. Not the least remarkable development in a decade of progress has been the advance made by female education. Indications are not wanting that the prejudice against teaching girls is breaking down, though it would be idle to maintain that there is any enthusiasm as yet. Female education is *par excellence* the field for private effort. A considerable amount of teaching is afforded privately behind the purdah, and the problem of systemising this zanana teaching is engaging the attention of the Department. The Victoria May and Convent Schools for Indian girls at Lahore were opened in 1908. The idea of the former was originated in 1906 in honour of the then Prince and Princess of Wales. It has since developed into the Queen Mary College, a counterpart for girls of the Aitchison College for boys. The want of teachers, irregular attendance and premature withdrawal from school are great obstacles to progress. To meet the demand for trained teachers, a Normal School for Women was opened in Lahore in 1904. The education of Muhammadan girls suffers from the special disability that Urdu is neither their mother tongue nor the language of the religious books of the pupils.

For many years engineering classes were maintained by the University at the Mayo School of Art and served a limited though useful purpose. These were taken over by the Department in 1905 as a Government School of Engineering: the size of the classes was subsequently reduced and a competitive entrance examination, conducted by the Public Works Department, introduced with the effect of considerably improving the instruction given. The school has now been transferred to Rasul at the Headworks of the Lower Jhelum Canal and placed under the control of the Public Works Department. Progress is also marked by the creation of chairs for chemistry and biology at the Government College in 1906 and the transfer from the Medical to the Arts Colleges of the course in elementary science. Uniformity has been secured by the adoption in 1909 of the financial year as the school year. And in 1910 the dates of all examinations, except the Entrance, were shifted from March to May, to secure a longer cold weather term for lectures and to make it possible to end the University year at the beginning of the summer vacation. In the domain of education of Europeans it is the policy of the Department to encourage the amalgamation of schools of the higher grade, with a view to economy of teaching power. It is desired that secondary education should be obtained, as far as possible, in boarding schools situated in the hills, and that each station in the plains, where there is a sufficient number of European children, should have a primary school under competent teachers, Lahore alone retaining high schools for its large European population. This ideal is not likely to be entirely realised in the immediate future, but steps are being taken towards attaining it.

PRESENT CONDITIONS.

Organisation of schools for general education.

636. Schools for general education, whether departmental or aided, are classified as Vernacular or Anglo-Vernacular, and as Primary or Secondary. Primary Schools afford a course of instruction extending over five years. There are five classes, of which the first three are Lower Primary, and the fourth and fifth Upper Primary classes.

In the Lower Primary section of both Anglo-Vernacular and Vernacular Schools there is a uniform course of study, which includes Vernacular Reading and Writing, Arithmetic, Object Lessons, and Elementary Geography, with Needlework for girls. In the Upper Primary section the subjects of study are the same in both kinds of schools, with the exception that in place of English in the Anglo-Vernacular Schools the Vernacular Schools have Mensuration, Native Accounts, and Book-keeping. In Girls' Schools less Arithmetic is required, and some special Readers are prescribed; but the classification and standards are generally similar. Scholarships tenable in the classes of the Middle Depart-

ment are awarded by districts on the results of an examination held by inspecting officers. Secondary Schools are either Middle Schools or High Schools. A Middle School usually contains a Primary and Middle Department, the Primary Department consisting of the five classes of an ordinary Primary School, and the Middle Department of an extra course, extending over three classes. A High School usually embraces a Primary, Middle and High Department, the first two corresponding to a Middle School, and the last having a course of two years, and terminating with the Matriculation Examination. In many cases now however the Primary Departments of High Schools are being separated off as District Schools. The above system of classification is obligatory in Government and Board Schools, and has been generally adopted in Aided Schools. The subjects of study in the Middle Department include English in the case of Anglo-Vernacular Schools, and also a Vernacular Language, Arithmetic, Geometry, Algebra, History, Geography, Persian, Arabic or Sanskrit, and Elementary Science. The course of study for Vernacular Middle Schools terminates with the Vernacular Middle School examination, which is conducted by the Education Department. Scholarships tenable in the classes of the High Department are awarded on the results of the Vernacular Middle School Examination and a special scholarship examination for Anglo-Vernacular Schools. The course of instruction in High Departments embraces the subjects prescribed for Middle Schools, but carried to a higher stage and taught through the medium of English. On passing the Matriculation Examination students are admitted to the Arts Colleges.

Secondary Schools in the Punjab unlike those in some other provinces include Primary Classes, but a satisfactory dividing line is not easy to draw. The teaching of English properly belongs to the secondary stage, but is begun in the Upper Primary Classes of Anglo-Vernacular Schools in the Punjab. Vernacular Middle Schools are in some respects merely advanced Primary Schools, while in the teaching of Oriental classical languages they may be properly termed secondary.

The Entrance or Matriculation Examination serves two purposes: it is at once a "school final" examination and a test for admission to a University course. Much has been said about the evil of a University examination "dominating" the school curriculum, but the existence of such an examination does not obstruct the work of a teacher who has higher ideals than pass percentages: such a teacher can both educate and pass his pupils. The Vernacular Middle Examination is practically the school final on the Vernacular side, as there is practically no Vernacular education beyond this stage: it is also a test for admission to the Normal Schools. Constant efforts are made to convert existing Vernacular Middle Schools into Anglo-Vernacular Schools, owing to the high commercial value of a knowledge of English. This has steadily to be resisted as the Vernacular Schools are a necessity, if only to secure teachers for Primary Schools: but educationally too this change is undesirable. Pupils in Anglo-Vernacular Schools pick up a smattering of many subjects, while those in Vernacular Schools know a few subjects thoroughly and are well grounded, and it is common experience that among the best pupils of the Secondary Schools are those who have first received a sound Vernacular education and have taken up Anglo-Vernacular studies afterwards in the special classes of the Anglo-Vernacular Middle Schools. The two years lost in the process are however a serious obstacle to this course and all aided Secondary Schools are of the Anglo-Vernacular type.

Private Schools.

637. Private schools are those schools which are not recognised by the department. They are of four kinds—(*a*) elementary schools, teaching a Vernacular, many of which are annually brought on the grant-in-aid list; (*b*) schools teaching religious books (chiefly the *Quran*) by rote; these are a very numerous class; (*c*) Mahajani schools, which train children of the mercantile class for shopkeeping; and (*d*) advanced schools, teaching Arabic, Persian and Sanskrit. Every effort is made to bring private schools under departmental influence. The provisions of the Code relating to the recognition and aid of indigenous schools are sufficiently elastic; but the majority of the

schools are so limited in scope as to be outside any scheme of general education. Private schools are steadily declining in numbers from various causes, though girls' schools are becoming more numerous.

Arts Colleges.

638. There are eleven Arts Colleges—the Oriental, Government, Forman, Dayanand, Islamia and Dayal Singh at Lahore; St. Stephen's, Delhi: Khalsa, Amritsar; Murray, Siálkot; Gordon, Ráwalpindi; and Hindu, Delhi. Six other colleges in Kashmir, Patiála, Baháwalpur, Kapúrthala and the North-West Frontier are affiliated to the Punjab University. The tendency of the student population is to gravitate to Lahore and the close vicinity of Lahore colleges to one another and to the University buildings affords more favourable conditions than can be found elsewhere in India for the growth of a University spirit and the reproduction of the academic atmosphere of the older Universities of the West.

Training institutions.

639. The chief institutions in the province for training teachers for boys' schools are, as before, the Central Training College, Lahore, which trains teachers for Secondary Schools, and the five Normal Schools situated at the centres of divisions, which train teachers for Primary Schools. To these have been added recently various training classes attached to Vernacular Middle Schools, for training teachers who have completed the Primary School course and are sufficiently qualified to be employed as assistants in Primary Schools. Women teachers are trained in the Kinnaird High School for girls and other Secondary Schools, as well as in the Normal School for Women, Lahore. St. Bede's College, Simla, trains women teachers for European girls' schools, and men teachers are trained in a Government institution at Sanáwar which was opened in April 1907.

The Central Training College is affiliated to the University and prepares candidates for the degree of Bachelor of Teaching. The Central Model School at Lahore is the practising school for the College and also for the Lahore Normal School and is the only practising school in the province of the High School grade, those attached to the other Normal Schools being of the Primary grade.

Industrial Schools.

640. The object of the Industrial Schools at present established in the province is to give the young artizan some education, while detaching him as little as possible from the workshop, it being common experience that when a workman's son attends school at all it is almost always with a view to abandoning his hereditary pursuit. A course of study is prescribed, embracing reading, writing, arithmetic, geography and drawing, together with some suitable handicraft. Exclusive of the Railway Technical School at Lahore which is maintained by Government and has an attendance roll of over 400, eight Industrial Schools for boys are maintained by municipalities or district boards. Aided Schools maintained by Missionary bodies, the Arya Samaj and like institutions receive grants-in-aid based on industrial tests conducted by the Mayo School of Art. Such as they are the public schools have attracted a fair attendance: most of the children attending belong to industrial classes and most have subsequently taken to industrial occupations. The schools are, however, capable of improvement as competent technical teachers have not hitherto been the rule. The classes in Art industries attached to the Mayo School of Art at Lahore are, however, undoubtedly successful and a development of the teaching department of this Government institution to supply specially trained craft teachers is under contemplation. A committee was appointed in 1911 to draw up a scheme of industrial education for the province and has submitted a report.

Reformatory School.

641. The Reformatory School instituted under Act VIII of 1897 is at Delhi and is in the charge of a Superintendent under the control of the Director of Public Instruction. The training is of a practical kind: all the boys' clothing and furniture is made up at the school and all the shops turn out marketable articles, which find a ready sale. The industrial work is tested annually by the Principal of the Mayo School of Art. The standard of general education is that of elementary schools, two hours daily being allotted to class work. Moral and religious instruction is given and the boys have drill, gymnastics and games.

Commercial Training.

642. Commercial and clerical training is limited to the teaching of shorthand, type-writing, précis, book-keeping and commercial geography and is imparted in classes attached to the Government Schools at Lahore, Delhi and Ferozepore; in the Government Clerical and Commercial School at Amritsar and in the Young Men's Christian Association and Young Women's Christian Association Continuation Classes at Lahore. The schools ordinarily prepare boys for the special University Examination.

Technical Education.

643. Technical education, meaning by that the training of a mechanical engineer and specialised scientific training for particular trades, can hardly be said to exist as yet, and it is doubtful whether in view of the smallness of the industrial concerns and modest scale of salaries in the Punjab the time has come for an ambitious scheme of technical education. More hope seems to lie in the direction of improving crafts and small industries through the agency of craft schools and otherwise.

The Mayo School of Industrial Art, Lahore, contains four departments,—one for elementary training in industrial work and drawing, a second for advanced industrial training, and the others for training draftsmen and teachers.

Professional Colleges.

644. In addition to the Training College for teachers the Professional Colleges are the Law, Medical and Veterinary Colleges at Lahore and the Agricultural College at Lyallpur. The Government Engineering School at Rasul aspires in time to rank as a college. The Training, Law and Medical Colleges are affiliated to the University. All these colleges are controlled and financed by the Government department concerned or, as in the case of the Law College, by the University.

THE PUNJAB UNIVERSITY.

The Punjab University College.

645. The proposal to establish a University at Lahore was recommended by the Punjab Government in 1868. The Governor-General in Council was at that time unable to sanction the scheme. He was willing, however, to allow a grant-in-aid equivalent to the annual income of Rs. 21,000 expected from private sources on condition that, instead of expending the funds in establishing a University or examining body, they should be applied to the extension and improvement of the existing Lahore Government College on the principles advocated by the Punjab Government. The decision of the Government of India failed to satisfy the promoters of the Punjab University, and after further correspondence a compromise was accepted by them as a step towards the fulfilment of their design. The new institution, which was styled "The Punjab University College," was inaugurated by Sir Donald McLeod as President in January 1870. A governing body, called the "Senate," was appointed, and statutes were framed in which the special objects of the University College were declared to be —

(1) to promote the diffusion of European science, as far as possible, through the medium of the Vernacular languages of the Punjab, and the improvement and extension of Vernacular literature generally;

(2) to afford encouragement to the enlightened study of Eastern classical languages and literature;

(3) to associate the learned and influential classes with Government in the promotion and supervision of popular education.

To carry out this policy the University College established an Oriental School and College at Lahore; endowed lectureships, literary fellowships, and scholarships; and held public examinations in the various subjects of study which it was desired to encourage.

Incorporation of the University.

646. The question was revived in 1878 in connection with a movement made on the occasion of the Imperial Assemblage at Delhi on 1st January 1877, and the Secretary of State, on being satisfied that the examinations of

the Punjab University College were of such a nature as to justify that body being entrusted with the power to grant degrees, accorded his permission to the introduction of an Act for the incorporation of a University in 1880. An Act for this purpose was accordingly passed in 1882 as Act XVII of that year, and on 14th October the Punjab University was incorporated and received the power of conferring Degrees for Oriental Learning and Arts. The Viceroy consented to become the Patron of the institution, the Lieutenant-Governor was appointed *ex-officio* Chancellor, and the members of Senate were designated Fellows. Authority was granted by the Act to the Governor-General in Council to empower the University to confer degrees in Law, Medicine, Science and Engineering also when it proved to his satisfaction that the arrangements and examinations of the University were such as to render the conferring of these powers desirable. In accordance with this authority, the power to confer Degrees in Medicine was conceded in 1886, and Degrees in Law and Science in 1891.

Indian Universities Act.

647. In common with other provinces of the Empire, the system of University education in the Punjab was profoundly affected by the labours of the Universities Commission, which visited Lahore in April 1902, and by the subsequent Indian Universities Act of 1904 which came into effect in October of that year. The Senate was strengthened by the infusion of new material, and the reduction of the number of *ex-officio* Fellows and the exclusion of 37 other Fellows to a large extent only affected those who had taken no part in University affairs for several years. The new Senate upon its incorporation constituted provisional Oriental, Arts, Science, Medical, and Law Faculties, pending the regular appointment of the Syndics. The Engineering Faculty was abolished, the subject being treated as a branch of Science. The Faculties have the privilege of adding to their numbers graduates in the Faculties and specialists. The Syndicate, after reconstitution, was smaller by four than before the changes. Its work has considerably increased chiefly in connection with affiliated colleges. Eighteen Boards of Studies representing different subjects or groups of subjects have been formed to determine objections raised to questions set in examinations, previously the duty of the Syndics in each Faculty, to suggest examiners to the Syndicate, to recommend courses of study and reading and to act generally as consultative bodies to the Faculties. Of other subordinate Boards the Board of Accounts was left unaltered, but the management of the Oriental College was taken over directly by the Syndicate and of the Law College by the Law Faculty.

Before the passing of the Act no system of affiliation existed in the Punjab University, colleges being "recognized" only. Affiliation became necessary under the Act and all the colleges previously recognised applied. Committees of inspection were appointed to report on the condition of these institutions and found it impossible to adopt any standard of efficiency that could be regarded as at all permanent without excluding the great majority of the institutions inspected. In the end the compromise was adopted of granting affiliation in every case, but the Syndicate required certain improvements to be effected as a condition of the continuance of affiliation.

The revision of the regulations was a consequence of the new Act and was expeditiously carried out. Two new degrees—Bachelor of Teaching and Master of Science—were instituted, the latter a further step in the gradual creation of a highly specialised Science side of instruction. Degrees of Bachelor of Laws and of Medicine and Surgery replaced the Diplomas of Licentiate in these two subjects; and the Oriental Examinations in Law and Medicine long in abeyance were removed from the regulations. Honours papers were instituted in the B.A. and B.Sc. Examinations, but special lectures were not at first required.

Inter-collegiate rules affecting latest dates of admission to classes and transfer from one college to another had previously been adopted by the Syndicate as a condition of recognition and now became binding on every

affiliated college. Every University student is now registered and his college career recorded. The registered number is used instead of the name in the list of candidates supplied to the Examiners.

The reorganization of the University has fitly been marked by the provision in 1905 of a new University Hall, with Syndicate and committee rooms, consonant with the dignity of the Foundation. Collegiate education in the province is on a high level and the standard is steadily rising in spite of the difficulties caused by the low standard of English education in the schools. The closer supervision of colleges by the University, through its inspecting committees, has had a beneficial effect and the colleges have made loyal efforts to meet requirements, aided by the distribution of liberal grants from Government. In only rare instances has it been necessary for the Syndicate to consider the advisability of adopting the extreme measure of disaffiliation in order to secure efficiency.

GENERAL.

General.

648. The departmental inspecting staff under the Director now consists of six Inspectors (one of whom is responsible entirely for European schools), 11 Assistant Inspectors, 27 District Inspectors and 24 Assistant District Inspectors, also a Senior Inspectress of Girls' Schools, with general supervision throughout the province, assisted by a Junior and two Assistant Inspectresses. The appointment of qualified Assistant Inspectresses for each division is under consideration. The most pressing needs at present are new buildings for Government High Schools, boarding houses for secondary schools generally and qualified teachers for primary schools. The problem of primary education, however, is perhaps the most difficult one before the authorities. It is the policy of Government to slacken departmental control of primary education even at some expense of efficiency, as too rigorous control is incompatible with the existence of any lively feeling of interest in local administration. Village school committees languish, but reliance is placed on the development of grants-in-aid to private institutions to bring into being useful bodies. In education, however, as in medical relief, the tendency is prevalent for the well-to-do to appropriate to themselves public services intended to be gratuitous or cheap to the poor and needy only. The general attitude towards education is typified by the continual pressure exercised by the public for the lowering of examination standards. Little wonder that education is popularly understood to be the learning of set text-books by rote and that the development of reasoning power is hardly considered. Even among teachers the duty of paying attention to the development of character and moral stamina has little practical recognition. Sentiment, unbacked by supposed material advantages, has small influence. The Gurmukhi Schools gain little if any thing in popularity, and there is no disposition to start them under the grant-in-aid rules. Until the demand for Punjabi becomes strong and articulate there can be no question of making this language compulsory.

Text-Book Committee,

649. The Text-Book Committee is charged with the task of supplying suitable text-books to the schools, a work of the utmost importance and no little difficulty. In 1905-06 a Text-Book Revision Committee was also appointed with a grant of Rs. 20,000 to bring up to date revision work which had fallen into arrears. The Committee itself obtains funds from the 10 per cent. of the price of all books published, which is payable by the contractors. A further function of the Committee is the distribution of the patronage of Literature Fund in grants to authors for the encouragement of Vernacular literature. In spite of this encouragement the literary output in Punjabi shows little signs of development.

54. Education.

GENERAL SUMMARY.

General conditions.

650. The report submitted this year by the Director is a quinquennial one, dealing with the period 1906-07 to 1911-12, and affords a survey of the progress made during the last five years. Generally speaking, there is a

growing demand for school education in all parts of the province, the advance being particularly marked in girls' schools and secondary schools. At the same time there are still large sections of the population which remain practically unaffected by the educational movement. Some of the statistics of literacy given in the latest census report, which relate, it should be said, to the Punjab States as well as to British territory, illustrate the magnitude of the task of educating the low-caste population. Four criminal tribes number 67,088 persons, of whom only 200 are classed as literate. *Mochis* number 1,564 literates out of a total of 417,230 persons; *Musallis* 207 out of 309,530; *Chuhras* 1,290 out of 925,053, and *Chamars* 4,219 out of 1,106,589. In the case of these four castes, therefore, only 7,280 people can read and write out of a total of 2,758,402, and many more instances could be cited. There is evidently a vast field here awaiting educational development.

The supply of funds has not kept pace with the rapidly increasing demands. The liberal recurring Imperial subsidy, granted in the previous quinquennium, had spent its force and no new Imperial grants were sanctioned until the close of the period under report. Provincial finances were passing through a period of severe stress, and the amounts allowed were until the year 1911-12 barely sufficient to meet the sanctioned recurring charges. Whatever additional local funds could be spared were absorbed in raising the pay of teachers, the establishment of provident funds and the provision of buildings. In the circumstances a slackening of the rate of expansion was inevitable.

Progress.

651. Notwithstanding the unfavourable conditions progress is reported under every head; and a number of changes—administrative and otherwise—have been introduced. Endeavours have been made to simplify the working of the departmental machinery, to systematise the financial arrangements, to strengthen the position of inspecting officers, to free inspection work from the trammels of routine, to attract a better class of teachers to the schools, to recast the courses of study, and to make the institutions directly controlled by the Department as efficient as possible. The University has replaced broken periods of work by a continuous lecturing session, and the school arrangements have been harmonised by the introduction of a uniform school year. The Agricultural College, Lyallpur, Queen Mary's College, Lahore, and the Sanáwar training class for European teachers have been added to the institutions directly controlled by Government. The Government Engineering School has been remodelled and established in new buildings at Rasúl. The Government College has been placed in possession of a chemical laboratory adequate for its needs. With the aid of the Imperial grant for buildings the construction of school and other educational buildings has been undertaken on a large scale throughout the province, and standard plans have been issued by the Department for guidance. The grant-in-aid system has been made simpler and more liberal, and the rates of stipends in training institutions have been raised. The finances of European schools have been placed on a sound basis. A greatly increased income for the Text-Book Committee, together with more favourable terms for the schools, has been secured by a new contract.

General statistics.

652. The following statement gives the numbers of schools and colleges and the attendance returned for the public institutions of the province in 1911-12:—

	Males.		Females.	
	No.	*Attendance.*	*No.*	*Attendance.*
Arts Colleges, English ...	10	2,539	...	...
Ditto, Oriental ...	1	120	...	...
Professional Colleges ...	6	860	2	39
High Schools ...	101	47,662	16	1,683
Middle Schools ...	211	45,521	36	4,552
Primary Schools ...	3,417	179,588	637	29,091
Schools for special instruction	31	3,237	25	1,284

There has been an improvement in the number of public institutions of all kinds. The increase compares favourably with the increase in the previous quinquennium except in respect of primary schools, which had been greatly added to during the years 1902–1907 by means of the Imperial grant. An increase in attendance is distributed among all kinds of institutions, amounting to 68,646 in the case of males and 12,626 in that of females, a substantial advance on the figures of the previous quinquennium. The percentage of attendance in public institutions to the estimated population of school-going age rose from 12·8 to 16·9 in the case of males and from 1·7 to 2·7 in that of females. It is noted that during the last 30 years the above percentage has risen in the case of males from 6·5 to nearly 17 per cent., whereas the proportion of the male population classed as literate has during the same period only risen from 6·2 to 6·3 per cent. The explanations suggested are that some exodus of the educated classes takes place, that much greater strictness is employed in the interpretation of the term literacy, and that much of the instruction given in primary schools is soon forgotten. Classified by religions the percentage of the total male population receiving education in public institutions is among Hindus 3·6, among Sikhs 3 and among Muhammadans 1·8. As regards private schools, the statistics of which are admittedly incomplete, it would appear that boys' schools at any rate are gradually being absorbed into public schools.

The total expenditure on education in public institutions which was Rs. 51,96,890 in 1906-07 rose to Rs. 68,64,909 in 1911-12 or by 32 per cent. The figures, of course, are for the individual years. Fee receipts and expenditure from private sources each increased by over 50 per cent., and expenditure from district funds, which includes the fixed Government grant to district boards, by nearly 30 per cent. The provincial expenditure in 1911-12, Rs. 22¾ lakhs, was Rs. 4 lakhs higher than in 1910-11. Compared with the year 1906-07 the increased expenditure went on the Medical, Agricultural, Training and Government Colleges, on the Government Secondary Schools, on boarding houses and on aided colleges and secondary schools.

Primary Schools (Indian Boys).

Present conditions.

653. There has been an increase during the quinquennium of 263 primary schools and of 37,934 pupils in such schools, the numbers now being 3,413 and 179,465, respectively. The expansion has, owing to want of funds, not been so rapid as in the previous quinquennium, but it is satisfactory. The total direct expenditure amounted to Rs. 8,76,375, an increase of Rs. 2,36,943, of which increase Rs. 1,89,481 were contributed by district funds. Fees defray 11 per cent. of the total expenditure. Elementary education in the rural districts is largely free. It is calculated that in the district board schools the average number of pupils is approximately 51, and the fee receipts average Rs. 2 monthly. Two-thirds are probably free pupils and the rest pay less than two annas monthly. This small payment made by some of the non-agriculturist parents represents a cess such as is already paid by the agriculturists in another form.

Education of agriculturists.

654. Since the new "rural" schools which superseded the "zamindari" schools were linked with the middle school their popularity has increased, but it is doubtful if the "rural" school curriculum appeals to the zamindar or is better for agriculturist boys than the "town" primary schools. Generally speaking, about half the pupils in village schools belong to the cultivating classes. Complaint is still made that the village school unfits its pupils for field life afterwards; but that is probably due as much to the ill-developed condition of agricultural practice, which necessitates no education, as to the school curriculum. Among the agriculturists of the north the advantages of education in the army are recognised, and their boys are being sent to school in increasing numbers. In the province generally, however, the agriculturist still stands aloof.

Teachers and accommodation.

655. The increase in the number of trained teachers does not keep pace with the increase in schools, only 42 per cent. of the teachers employed in primary schools (including girls' schools) having undergone training. There has been much leakage in the past from the training schools into other professions, which can only be stopped by making the teacher's profession more attractive. Some advance is being made in the provision of school accommodation, but in too many cases the accommodation is either inadequate, uncomfortable or insanitary.

Aided schools.

656. Little progress has been made with aided elementary schools, but such schools, especially when they are managed by responsible agencies, are a useful adjunct to the board school system, and a substantial increase in the rate of grants-in-aid has now been sanctioned in the hope of fostering such schools.

Gurmukhi.

657. The Punjabi language is an optional vernacular in rural schools, but shows little sign as yet of replacing Urdu. The number of Gurmukhi-teaching schools has risen from 32 to 102; chiefly in the Multán division: and the attendance from 917 to 4,067.

Preparations for the future.

658. In anticipation of further subsidies being allotted from Imperial funds, a fully worked out scheme for the expansion of elementary education has recently been submitted to the Government of India: such a scheme secures a more satisfactory disposal of the money allotted. With the same object in view various preparatory measures have been adopted; the most important of which are the introduction of a system of proportioning the grants made to district boards for primary education on the basis of teachers' salaries, the establishment of provident funds for teachers, and the opening of training classes at vernacular middle schools to supplement the existing normal schools.

Stages of education.

659. The number of boys in the lower primary classes, practically four in number, inclusive of those in the primary classes of secondary schools, is 191,608. In the two upper classes it is 47,015, whereas at least 75,000 might be expected. The inference is that a large number of boys do not at present get beyond the lower primary stage, and only receive a smattering of education. About half the boys who finish the course in vernacular primary schools go on to the secondary schools.

Secondary Schools (Indian Boys).

Number of schools and attendance.

660. The number of schools is now 303, and in the last five years attendance has risen by 46 per cent., and now numbers 92,273. Of the total, vernacular middle schools number 118, with an attendance of 22,232. Secondary schools, however, give primary education to about 59,000 boys, forming nearly two-thirds of the total number, and this fact vitiates comparison with the figures of those provinces where secondary schools have no primary departments. In the secondary classes there are some 33,000 boys, equal to about 3 per thousand of the male population. The Government High Schools have gained much in popularity and efficiency since the transfer from municipalities. The net cost to Government averages about Rs. 6,000 apiece per annum. The total expenditure has risen by 50 per cent, and is now Rs. 17,64,186, of which Rs. 9,53,587 were contributed by fees and Rs. 3,57,425 from provincial revenues. A revised scale of fees came into force from 1911, increasing the rates by 20 per cent. annually for two years in succession. The enhancement was accompanied by an increase of the fee concessions to poorer pupils and of the minimum limit of income for parents paying double fees. The higher grade fee is justified by the fact that comparatively rich people avail themselves of the cheap schools financed largely by the State and do not send their children to schools independent of State aid. The percentages of passes in the Matriculation and Vernacular Middle School examinations show little variation: the number of candidates for the former in 1911 was 3,203

and for the latter 1,997: on the science side of the Matriculation Examination there is a large increase in candidates, who numbered 191 in 1911 with 139 passes.

Buildings.

661. The total expenditure on buildings was Rs. 9,95,872, including primary schools. The recent improvement in provincial finances, coupled with an imperial grant for educational buildings, has permitted of progress being made. It has become possible to take in hand suitable buildings for the Government High Schools, most of which are unsuitably housed—a legacy from the days of municipal control. Those at Jullundur, Gujrat and Campbellpur have already been completed. Standard plans have been drawn up, and building projects invited from School managers and local bodies, and in short an extensive building campaign has been inaugurated.

Private enterprise.

662. Private enterprise is conspicuous in secondary education. The Arya Samaj and the Sikh community have displayed considerable energy in founding and conducting schools, while the Anjumans and Christian Missions have been less prominent. New grant rules have been issued under which aided schools will be able to earn considerably higher grants in future, provided that they increase their expenditure, and will have greater inducement to raise teachers' salaries. Unrecognised secondary schools are occasional only. Of late, however, seventeen middle schools of this class have sprung up in Hoshiarpur. The competition of such ill-taught and ill-managed schools, which is bound to affect education unfavourably, is exceptional as yet in the province.

Hostels.

663. The number of hostels of all kinds increased by 21 per cent. and the number of boarders in the case of secondary schools rose to 12,213. Almost all secondary schools have hostels of some kind attached to them, and there is a welcome tendency to establish denominational hostels under the control of religious societies. In the Government hostels Government provides the building, furniture, Superintendent and servants, and the boarders the lighting and cooking arrangements. A small fee, usually 8 annas or a rupee a month, is charged for the use of the building.

Quality of teaching.

664. Although the number of secondary schools and of pupils in these institutions shews a satisfactory increase, the quality of the instruction still leaves something to be desired. The chief fault found with the teaching is its unreality and its divorce from observation and experience. The general scheme of studies has for some time past been considered unsatisfactory, and after much consideration and careful criticism a completely new scheme was worked out and is now being issued. The supply of qualified teachers, though rising, is not keeping pace with the growing demand. Fifty-four per cent. only of the teachers employed are trained men, and graduates only average for High Schools about three apiece. Weak headmasters, incompetent assistant teachers and buildings which are a menace to health are far too common. On the subject of improving the quality of the schools public opinion is still dormant, and the prevailing tendency is to extend secondary education to the greatest number regardless of the conditions under which it is given.

Collegiate Education.

General.

665. The number of students in Arts Colleges rose by 66 per cent. to 2,659; 81 per cent. of whom read in Lahore Colleges, the expansion of the last few years having been unusually rapid. The number of candidates appearing in the several examinations was 1,602. Expenditure has risen by 59 per cent., and now amounts to Rs. 4,09,562.

The number of students taking science has greatly increased, due to the transfer of preliminary science teaching from the Medical to the Arts Colleges and to the fact that the Intermediate Science course is a preliminary to entering the Medical College. Marked improvement has taken place in the general equipment of the Colleges teaching science, and nine of the colleges have secured new laboratories during the quinquennium. A model laboratory

has been constructed at the Government College at an expenditure of Rs. 76,278, and a large part of the Imperial grant of Rs. 1,40,000 for collegiate education has been devoted to the improvement of science teaching. The provision of main buildings has also been taken in hand, no less than six of the colleges having constructed new buildings.

666. The system of grants to aided colleges has been altered. They now roughly correspond to the expenditure on tuition met from private sources other than fees, and are periodically reassessed. Very considerable enhancements were the result. The new grants are to be spent on the improvement of staff and equipment. Aided Colleges.

667. Individual colleges are adopting methods of their own for keeping the students to a high ideal of work. The tutorial system has been very largely adopted, and the practice of withholding promotion to 1st and 3rd year men who have done poor work has had good results. With the introduction of new subjects and honours courses (1909) it is becoming clear that a single college cannot maintain a full staff of teachers for every subject, and an extension of the system of inter-collegiate lectures is desirable. The co-operative spirit of the colleges has greatly developed with the encouragement of athletics, and the staffs are fully alive to the desirability of further improvements in this direction. Improvements.

Training Institutions.

668. Considerable changes have been introduced in recent years in the Central Training College with the object of obtaining a better class of students and adapting the courses to the requirements in each class. The results have been most encouraging. The numbers have risen to 229, and over a hundred applicants were refused admission this year for want of accommodation. During the last five years the College sent up 884 candidates for various examinations, of whom no less than 805 were successful. Central Training College.

669. Owing to the demand for teachers it had been found impossible in practice to keep men for the full two years' course prescribed in the Normal Schools, and a simplified course for one year's work has been introduced. With the abolition of "zamindari" schools, the special class for teachers for these schools has been abolished. The improvement in the pay and prospects of primary school teachers has had a marked effect in attracting candidates, and selection is now for the first time possible. The practising schools attached to the Normal Schools are popular and well attended. Normal Schools.

Training classes in connection with Vernacular Middle Schools are being instituted in some districts with a view to improve the qualifications of assistant teachers in village schools who are employed in teaching lower primary classes. The training lasts for six months, and is extremely useful as a temporary measure, though in no sense a substitute for that given in the Normal Schools.

The Normal School for Women at Lahore does not attract candidates, and the attendance is 20 only. Experience shows that reliance must be placed on local training classes for the supply of trained women teachers. Ten candidates from the Normal School and 19 from training classes in secondary schools were successful in 1912, but the output is very far from meeting requirements.

670. The training at the Sanáwar class for European male teachers has been most valuable. The class consists of 15 students. St. Bede's College, Simla, for women teachers has 30 students on the rolls. Seventeen obtained certificates in 1911. Eighty women teachers trained at St. Bede's are said to be now employed in different parts of India. The training class at the Auckland House school, Simla, was closed in 1911. Training of European teachers.

Professional and Technical Education.

Law College.

671. The Law College, which is one of the two teaching institutions maintained by the University, was reorganised during the quinquennium, a wholetime staff being appointed consisting of a principal and two lecturers. The expenditure rose to Rs. 24,585, most of which is covered by fees; and the number of students in the English classes to 207. The vernacular classes were abolished in 1909. The examination results have greatly improved. A hostel for the students was started in 1909.

Medical College and School.

672. The number of students in the Medical College was 156 and in the school 322. The Principal attributes the increased popularity of the school to the improvement in the pay and status of Sub-Assistant Surgeons. The examination results in 1911-12 were excellent, 90 out of 106 college students being successful in professional examinations; this is said to be largely due to the institution of test examinations. During the quinquennium the staff was increased by the addition of three professors, three assistant professors and a demonstrator. Of the total direct expenditure on the college, Rs. 1,20,701, provincial funds contributed Rs. 1,01,405 and fees Rs. 12,090.

North India School for Women.

673. The North India School of Medicine for Women at Ludhiána has a strong staff of lady doctors and numbers 38 medical students from different parts of India, in addition to others in training as compounders, nurses and dais. In 1911 a maintenance grant of Rs. 6,000 a year was sanctioned by Government towards the salaries of the teaching staff and a grant of Rs. 50,000 was made for buildings.

Yunani and Vedic Schools.

674. There were 130 students at the Delhi Madrassa-i-Tibbia and 44 in the Vedic class at the Daya Nand College, Lahore. There is also a class for Yunani medicine at the Islamia College, Lahore. Modern surgery and the property of common English medicines are said to be taught at Delhi.

Punjab Veterinary College.

675. Sixty-four men were admitted to the Veterinary College in 1911; of these 16 had passed the middle school examination. The military services, other provinces and States furnished 54 fresh men, and only 10 civilian Punjabis could be admitted. In the examinations 78 per cent. were successful in the first year, 80 per cent. in the second and 74·6 per cent. in the final year. The examiners reported that the results are not yet satisfactory, and that the standard is far too low, as evidenced by the percentage of marks obtained. The instructional work suffered severely by the sickness of Mr. Gaiger, who became infected with glanders, and the death of his successor Mr. Carless. But want of accommodation and lack of patients for practical work were also contributory causes. The demand for graduates is very great. Selection of Veterinary Assistants for the Civil Veterinary Department is at present impossible, and there are evident signs that the unfit are being recruited. The policy of Government is to enlarge the classes and to introduce a post-graduate course. To this end an increase in the number of European Professors has been sanctioned. The old site is much too confined for the expansion that is desired, and its position in the centre of a thickly-populated neighbourhood is undesirable. A fresh site has now been selected, and work will shortly be begun on the new buildings. Fears are expressed that at the new site the number of patients will be still further reduced, but it may be possible to arrange for practical instruction at the agricultural stations at Lyallpur and Gurdáspur. Of the direct expenditure of Rs. 73,404, Rs. 35,714 were contributed by provincial revenues, Rs. 30,069 by the Imperial Government and Rs. 7,621 from fees.

Agricultural College.

676. The classes of the year at the Agricultural College were formed of 10 first-year men, 16 in their second year and 30 fresh entries, of whom 7 subsequently withdrew. In the diploma examination, the first in the college history, eight men were successful and four subsequently obtained posts in the department. The examiners considered that the standard attained was high, but as a result of the experience gained the syllabus is to be modified

with the view of lessening cram and the excessive attention to theory at the expense of practical work. An avenue for the employment of diplomaed students of the college will be opened up by the schemes for the improved farming of the larger Wards' estates which are now being drawn up. A short vernacular course was to be started in October 1912. The post of Assistant Professor of Mycology was abolished during the year, and a temporary appointment of Lecturer in Physics and Mathematics sanctioned. Great difficulty is felt with the first year class at the college owing to the defective knowledge of English possessed by the students. The necessity for instruction in Agricultural Engineering is emphasised. The direct expenditure was Rs. 54,707, of which provincial revenues contributed Rs. 48,117 and fees Rs. 6,590.

Engineering schools.

677. The scheme for a new Government Engineering School at Rasúl (Gujrát) matured during the year, and the classes were moved into the new quarters in 1912. The buildings are of an inexpensive nature, and if the site should ultimately prove to be unsuitable they can easily be removed. They comprise a boarding-house with large recreation-room and dormitories for 100 students, workshops, quarters for the Assistant Principal, menials' quarters and minor buildings. A play-ground has also been levelled and the grounds planted up. The full complement of pupils has been secured without any difficulty. The future of the institution is so promising that it has been decided to put in hand the construction of the main hall, which had been postponed until experience was gained. A staff of good qualifications has been appointed. This change may be ranked as an important development in the history of technical education in the province. The examination results in 1911 were the best on record—47 out of 56 students passing.

The Engineering classes at the Daya Nand College had 94 students and there were 50 in the classes for Mechanical Engineering and Engine Driving at the Victoria Diamond Jubilee Hindu Technical Institute, Lahore.

Commercial training.

678. In the University Clerical and Commercial Examination 29 out of 82 passed. The popularity of the Amritsar school is growing and the number of pupils is now 61. The departmental continuation classes at Lahore were made over to the Young Men's Christian Association and Young Women's Christian Association, which bodies are assisted by grants-in-aid. The attendance in the men's classes was 64 and in the women's 42. The demand for students from the men's classes was in excess of the supply.

Industrial training.

679. The number of students at the Mayo School of Art was 230. Two Assistant Principals have been added to the staff; the courses have been revised, and new departures tried. The scheme for new workshops has at last been taken in hand. The School of Art was entrusted with the responsibility for the decorative work in connection with the Delhi Durbar, no small testimony to the regard in which this school is held. The Principal, Sardar Bahadur Bhai Ram Singh, was in sole charge, and the results of his labours won general admiration. The Railway Technical School, Lahore, continues to prosper, and has now 61 pupils. The total number of industrial schools has risen from 19 to 30 and the attendance from 1,639 to 2,614. Sixty-six per cent. of the pupils belong to the artizan classes, the parents of the others being shopkeepers or of miscellaneous occupations. Though attempts have been made to introduce better looms and better methods, there is as yet no organised system of instruction in weaving in the Punjab. The Department of Industries and the Salvation Army are devoting attention to this important subject.

Committee on Industrial Education.

680. A committee on industrial education was appointed in 1911, which reported that there was nothing radically defective in the prescribed courses of study, but that the industrial teaching was often wanting in life and intelligence, owing to the employment of ill-paid bazar artisans, who not only were ignorant of teaching methods, but had no inducement to inculcate good workmanship. The committee thought that efforts should be made to obtain a superior type of teacher, and that the training of efficient craft teachers in the Mayo School of Art should be a special feature of that institution. Experiments were also recommended in the way of founding schools of particular industries under skilled instructors trained in European methods, such schools not

attempting to give general education, but being virtually workshops. The Bareilly school of carpentry was instanced in this connection. The report is still under the consideration.

Reformatory School.

681. The number of boys at the Reformatory School was 138; 37 were admitted and 30 discharged. Of the latter, 17 were released on expiry of term, 6 under section 13 of the Act (VIII of 1897), 6 were transferred to the Chunar Reformatory and 1 to the Central Jail at Lahore. One boy died. The convictions of the boys admitted are mainly under the theft sections of the Indian Penal Code. One boy had seven previous convictions and another three. A profit of Rs. 1,472 from the sale of manufactures was realised during the year. A system of good conduct marks having a money value was introduced during the year with good effect. Only 15 punishments were necessary. A small proportion of boys on discharge follow the trades taught them at school, but the general results of the training are as satisfactory as can be expected. The expenditure from provincial funds was Rs. 27,931.

EDUCATION OF INDIAN WOMEN.

Number of institutions and attendance.

682. One of the most encouraging features of the quinquennium has been a very marked development of interest in the education of girls, as betokened by an unexampled increase of attendance in girls' schools. The number of public secondary schools for girls rose from 20 to 34, and that of primary schools from 541 to 635, so that there has been a total increase of 108 institutions; while the number of pupils in these schools rose from 21,769 to 33,820, an increase of 55 per cent. The increase is most noticeable in the higher stages of education, the number of pupils in secondary schools having risen from 1,809 to 4,765, or by 163 per cent. The increase has been mostly in the Lahore, Multán and Delhi divisions. The high schools are all in the Lahore and Jullundur divisions. The total direct expenditure rose from Rs. 1,79,742 to Rs. 3,15,669. The increase was common to all sources of funds. Fees, which are not charged in board primary schools, rose from Rs. 3,757 to Rs. 14,677.

The number of candidates for the Middle School Examination, which virtually ends at present the school career for girls, rose from 54 to 135, and a tendency is evinced in the larger towns to defer the marriages of girls so that they may receive a better education.

Special features.

683. The need of qualified teachers continues to be urgent. In the districts mistresses have little knowledge of teaching methods, as trained teachers easily obtain posts in the larger towns. Among Muhammadans the school language is Urdu and among Hindus Hindi, but Gurmukhi is making progress, as Punjabi is the mother tongue. The multiplicity of tongues makes the text-book problem difficult. Schools maintained by Mission and other religious bodies are generally properly housed, but board primary schools are not well accommodated, and middle schools are usually housed in rented buildings. Very few schools have any space for play grounds. A tendency is noticed to prefer for the sake of show inartistic fancy needlework to plain sewing. Needlework, however, is a great inducement to attendance, as mothers realise the practical advantage of their girls learning to sew and cut out and make their own clothes. Domestic economy is taught, and increasing attention is being paid to giving some practical knowledge of nursing, the laws of health and first aid to the injured.

Boarding Schools.

684. The Victoria May School, which was started in 1908, was re-named Queen Mary's College at Her Majesty's visit in 1911. The school is specially intended for the education of ladies of rank and position. The foundation stone of the new building was laid by Lady Dane on November 14th, 1911. The attendance, which has been limited by the accommodation, stands at 52. Other important boarding schools are the Kanya Maha Vidyala, Jullundur, 325 children; the Sikh Kanya Maha Vidyala, Ferozepore, 312 children; the Dev Samaj Balika Vidyala, Ferozepore, 81 children; the C. M. S. Alexandra School, Amritsar, the Kinnaird High School of the C. E. Z. and Z. B. and M. Missions, Lahore, and the A. P. Mission School, Sialkot.

Zenana classes.

685. The statistics shew 723 pupils in Zenana classes, which are mostly organized by Missionary societies. In 1911 a number of classes in Lahore city have been started under the management of a strong committee of Indian ladies, and the movement is likely to have important results.

EDUCATION OF SPECIAL CLASSES.

Education of Europeans.

686. Public schools for Europeans include 9 for boys, 17 for girls and 7 mixed. In pursuance of the present policy the Delhi station and Lahore Railway Schools have been converted into primary schools, and the Lahore Orphanages are being amalgamated with other existing schools. Corresponding efforts have been made to place the secondary schools in the hills on a sounder footing. The financial situation has undergone a great change for the better, and almost every school now has a credit balance. There has been a small increase of expenditure from Provincial revenues and a large increase of fee receipts. The expenditure on buildings was considerably less than the high figures of 1906-07. The number of pupils has risen to 2,539, and the average cost of educating a pupil has been reduced to Rs. 102 per annum. With the aid of an imperial grant improvement has resulted in the pay of teachers and in the staffing of schools. The training classes at Simla and Sanáwar have been another factor of progress. In consequence a great advance is reported in the work of the schools generally and in particular of those in the hills. The Departmental High and Middle Standard Examinations have been made more thorough, and will in time improve the teaching. The results of the examinations indicate the general superiority of the girls schools. The Lawrence Boys' School, Ghoragali (Murree), has been reorganised and opened to the children of civilian parents with the object of providing a boarding school in the hills for boys of the poorer classes of the domiciled community, and great progress has already been made.

Facilities for education among Europeans.

687. There is sufficient school accommodation in the province for the comparatively small number of children, and education is attainable at a very moderate cost, thanks to the unstinted efforts of devoted workers and to liberal assistance from Government. There is no class of European or Anglo-Indian children growing up without education for want of school facilities. For the case of the children of poor or improvident parents satisfactory provision can only be made by private charity, such as is afforded by the Anglo-Indian Children's Relief Association and the Punjab Masonic Institute.

Education of the upper classes,

688. Of 520 boys, the children of parents coming within the definition of the upper classes, only five boys are reported on as apparently not being educated: evidence that the advantages of education are appreciated by the aristocracy of the province.

Aitchison College.

689. The number of pupils at the Aitchison College, who belong with few exceptions to the leading families in the Punjab, has increased from 83 to 105. The average age of the boys on admission is 12 years. The Principal considers that there has been during the last five years a distinct improvement in punctuality and regularity of attendance. The instructional condition was favourably reported on by the special Inspectors deputed to visit the College. Three boys entered for the diploma examination, of whom two were successful, one standing second among all the candidates from Chiefs' Colleges. The third passed in the aggregate, and has since qualified in the subjects in which he failed, and has been recommended for a diploma. Three boys who have obtained diplomas attend lectures at the Government College. The financial position is secured by a large subsidy from the Government of India for the salaries of the staff, in addition to one of Rs. 12,000 from Provincial revenues. The necessity for the expansion of the College is not considered to be urgent as yet.

MISCELLANEOUS.

Text-Book Committee.

690. The number of publications dealt with in the quinquennium with a view to recommendation as text-books was 2,258. Of these 351 were recommended for adoption as text-books and 316 for inclusion in school libraries. The production of text-books in English improves year by year;

but in the preparation of vernacular school books private enterprise is yet to develop. The Committee has therefore to arrange to prepare and publish its own vernacular text-books. Forty new books have been issued in the quinquennium and 36 publications have been revised and brought up to date. The importance of good illustrations in books for children is being consistently emphasised. The Committee further provides 25 per cent. of the cost of the production of Urdu translations of approved standard English works by the Punjab Religious Book Society, and "John Halifax Gentleman" has already appeared. The new contract with the Committee's publishers, Messrs. Gulab Singh and Sons, is much more favourable to the Committee and the schools than the one which it replaced, and the royalty is now more than Rs. 20,000 a year. This has enabled the Committee to make more liberal grants for the purchase of books for school libraries, and Rs. 8,000 a year is now provided for the purpose, in addition to the grant of Rs. 1,500 from Provincial revenues. Primary schools are included in the distribution in spite of their large numbers. The Committee further augments a Government grant of Rs. 2,500 per annum by a further sum of Rs. 1,000 for the encouragement of vernacular literature. Forty-one authors sent in original works in 1912. Seven Urdu authors received Rs. 1,500, seven Hindi authors Rs. 1,400 and three Punjabi authors Rs. 600. The Committee's library and museum has recently been overhauled, and the increase in the number of visitors using the library is gratifying. The financial condition of the Committee is most satisfactory. The balance in hand is Rs. 74,036, and the budget estimates for 1912-13 provide for an expenditure of Rs. 29,585.

Conferences.

691. A conference of departmental officers was held during 1911, at which details were worked out regarding the proposed revision of the subordinate educational service, the new system of distributing Government grants to district boards for primary education and a simpler course of study for normal schools. Local conferences of head-masters have been held throughout the province and prove of much use as advisory councils for the Inspectors. They have done much to promote good feeling between schools and to stimulate interest in educational matters. Associations of assistant teachers hold frequent meetings with the object of discussing questions of instruction and descipline.

55. Literature and the Press.

LITERATURE.

Books registered.

692. The number of books and periodicals registered under Acts XXV of 1867 and X of 1890 in the year 1911 amounted to 1,565, of which 52 only are periodicals. These are classified as :—Original works 1,152; re-publications 221 and translations 192. A curious feature is that as many as 133 of the publications are written in more than one language. Altogether eleven languages are used, of which, however, Urdu, 48 per cent., and Punjabi, 35 per cent., are by far the most usual. English accounts for only 78 and Hindi for 68 of the 1,432 publications which employ one language only. No details of the scripts used are forthcoming, but the Persian, Nagri, Gurmukhi and English are the principal characters.

As usual, a large proportion of the works are educational,—technical and scientific education assuming an increasing share. Such books do not aspire to any literary value. Religion continues to be the dominating subject of indigenous literature. In addition to 297 books classified under the head Religion, the most noteworthy poetical contributions are on religious subjects and several books under biography deal with the lives of religious leaders. It is a sign of the times that efforts are being made by every community to explain the philosophical nature of their respective religious precepts and to bring religious teaching into harmony with modern science. "Din-o-danish" on Islam and "Biyah dharam maram sama lochna" on Hindu marriage are works of this nature. The yearly outturn of verse (491 books) points to facility of metrical expression rather than true poetical talent. After religious subjects the loves and adventures of popular heroes are the favourite subjects. Didactic poetry comes next, with the vanity of human wishes

nd the transitory character of the world as its main theme. Poetry of the bove nature is much appreciated in the Punjab. Perhaps the best literary ork is found under biographies and history, though both subjects cover works f very trivial nature also. Biographies of Sir Salar Jang and the late Nizam y S. Amjad Ali; a life of Nur Jahan by N. Imad Nawaz Jang; a history of Damascus: "Lives of famous Mussalman Women" and a history of Kashmir among original works are of some merit. Translations dealing with the history of Prithvi Raj, of Jahangir and of early Islam are also of interest. Of more philosophic type are Tarikh-ul-tarikh and Rasail-i-Shibli, dealing with the science of history and with educational institutions in the palmy days of Islam respectively. Philosophy, mental and moral, has very little to show. Asar-ul-Akhlaq by Mirza Sultan Ahmad deals with moral philosophy and Vedanta Arya Bhashya with Vedantic Philosophy, while Lala Suraj Narayan, Mehr explains Yog, Sankhya and the Vedantic systems in "Chihl Darwesh." The Rig Veda Mantras with Hindi translations and commentary are being published in the "Arsh Granthawali" series by Pandit Raja Ram of Lahore, and a similar series is being issued by Rai Bahadur Shiv Nath from Multan.

The production of good vernacular literature owes much to the enterprize of the Punjab Religious Book Society, the Vakil Trading Company and the Khalsa Tract Society.

The Press.

Newspapers.

693. The total number of English, Anglo-Vernacular and Vernacular newspapers published during 1911 was 248, including 13 Hindi, 22 Gurmukhi, 171 Urdu and 39 English publications, an increase on the previous year's return of one paper only. But the average periodical circulation (obtained by combining the averages of all papers) was 287,641 in 1911 as compared with 202,905 in the previous year. This considerable rise in circulation appears to have been due to the yearly widening circle of readers consequent upon the advance of education, a marked increase in the circulation of certain Muslim journals owing to the interest taken in affairs in the Near East and Persia, and the impetus to the sale of periodicals that was afforded by the Coronation Durbar. The principal places of publication were Lahore (152), Amritsar (55) and Delhi (25).

Circulation.

694. The principal Indian-owned papers published in English were the *Tribune* (1,830), *Panjabee* (2,194), *Observer* (1,120), and the *Khalsa Advocate* (846). The principal Vernacular papers were the *Hindustan* (14,585), *Arya Musafir* (6,500), *Parkash* (3,700), *Akhbar-i-'Am* (2,000), *Paisa Akhbar* (9,150), *Zamindar* (5,992), *Watan* (5,833), *Vakil* (3,100) and *Fauji Akhbar* (6,000).

Executive action.

695. The total number of declarations under Sections 4 and 5, Act XXV of 1867, reported during 1911 was 120, but the actual number is probably slightly higher. Security was waived in many cases, but when taken the average amount demanded from publishers was Rs. 600 and from keepers of presses Rs. 700. No press prosecution took place in 1911, but in certain cases it was found necessary to demand security from, and more frequently to issue warnings to, newspapers, principally on account of articles calculated to foment sectarian animosities. The bitterness of the religious controversy, carried on in the less responsible vernacular papers, necessitated the issue of a general warning by Government that the law would be put in force, a warning which all sections of the press recognised as imperatively demanded.

Foreign politics,

696. The course of events in Morocco, in Tripoli and in Persia engaged attention, especially from Muhammadan papers, which viewed with alarm the disasters that appeared to be overwhelming Islam. Foreign politics generally otherwise attracted little notice.

Domestic.

697. The treatment of Indians in British colonies was a constant subject of comment; Hindu and Muhammadan papers joining in their protests against the indignities to which their fellow countrymen were alleged to have been subjected, especially in Natal and Mauritius. No such unanimity marked the discussion of the recurring raids of Muhammadan tribes into the Punjab and the never-ending kine-killing agitation, both of which gave rise to violent re-

criminations, though certain papers, to their honour, rose above sectarian jealousies and advised to the common good, notably the "Tribune" and "Observer."

Legislation.

698. Legislation occupied a considerable amount of attention, and, though the Factory Bill did not arouse much interest, well informed and in general impartial criticism was bestowed on Mr. Gokhale's Primary Education Bill, Mr. Basu's Civil Marriage Bill, the Punjab Municipal Bill, the Punjab Panchayats Bill, and the Punjab Village Criminal Justice Bill. The Alienation of Land Act once more became the subject of sectarian controversy, which also was aroused at the census over the return of depressed classes as Hindus and over the Hindi and Urdu language question.

Political organizations.

699. The former uncompromising hostility of a certain section of the Punjab Hindu Press to the National Congress is now a thing of the past, and general approval of the proceedings was expressed. Not so, however, with the proceedings of the annual conference of the Punjab Hindu Sabha, which was generally attacked by the Hindu and Sikh Press as unpractical, with the exception of the *Panjabee* which supported its policy of gradual evolution. The Hindu Press stigmatized the All-India Muslim League as anti-Hindu, but the Muhammadan Press does not appear to have descended into the arena in reply.

Educational.

700. In educational matters the scheme for the Muhammadan University, welcomed by the Muslim papers, was not opposed by the Hindu Press as it was countered by the Hindu University scheme. Far more discussion was caused by Lala Lajpat Rai's elementary education league, which was distrusted by Muhammadans and Sikhs alike as an attack on the Urdu and Punjabi languages.

Durbar.

701. The Royal Visit evoked a chorus of loyal enthusiasm and, if the Press in any way reflected public opinion, the great Durbar stirred Indian imagination to its depths. The Durbar announcements were received by the Hindu Press with acclamation, though the Muhammadan papers viewed with distrust the modification of the partition of Bengal.

Miscellaneous.

702. Among miscellaneous matters, all joined in expressing satisfaction at the visit of the Viceroy to Lahore in April 1911, in blessing the Punjab Industrial Conference, in attacking the drink evil, and in advocating a High Court for the Punjab.

56.—LITERARY SOCIETIES.

Paucity of societies.

703. Literary societies, as the term is understood in the West, can hardly be said to exist in the Punjab. Machinery for the incorporation of such societies is provided by Act XXI of 1860, but most of the bodies which seek registration under the Act are not of a literary character. Numerous societies, both registered and unregistered, indeed have come into being, especially of recent years, the majority of which, however, are primarily religious and are meant for the advancement of the interests of particular communities which they profess to represent. Among such may be mentioned the various branches of the Arya Samaj and the Sanatan Dharm Sabha among Hindus, the Khalsa Diwan among Sikhs, and the many Muhammadan Anjumans. A few bodies are, however, established on a broader basis, and as they include individuals of all classes and denominations, their usefulness is not cramped by any sectarian limitations. Debating societies of course are a feature of college life.

Text-Book Committee.

704. Mention has already been made of the Text-Book Committee. It consists of 21 members each nominated for 2 years, with the Director of Public Instruction as President, and is representative of both public and educational interests. At present the committee consists of six Europeans, six Hindus, six Muhammadans and three Sikhs; a branch has been in existence at Delhi since 1902, and valuable assistance is rendered by the Delhi scholars, who are particularly well qualified to deal with literary productions in Urdu. The Memorandum of Association enumerates the objects of the committee as follows :—(*a*) the recommendation of suitable text-books in all subjects for schools and colleges; (*b*) the preparation, translation and publication of text-books; (*c*) the maintenance of lists of books for the libraries of schools

and colleges; (*d*) the encouragement of the development of vernacular literature; and (*e*) the maintenance of a library and museum of reference. Thus the original plan of the committee contemplated advisory functions with regard to books for both schools and colleges, but within recent years it has confined its attention to the consideration of school-books, leaving college text-books to be dealt with by the University.

Punjab Public Library.

705. The Punjab Public Library was established in 1886 with the object of providing a public library for the use of all classes of the community and a reading room open to the public free of charge. The library contributes to the intellectual advancement of the country by placing within the reach of students and scholars literary and scientific works which it would be impossible for them to acquire for themselves. The committee of management consists of 22 members; the Director of Public Instruction, the Director of Agriculture and Industries, and the Deputy Commissioner, Lahore, are *ex-officio* members. Members are nominated by the Punjab University, the Lahore Municipal Committee, the Lahore Gymkhana, and the Bishop of Lahore, and two are elected by the life members from among their number. The remaining members are nominated by the Punjab Government, which also appoints the President, at present Sir P. C. Chatterji, Kt., C.I.E. There are on the rolls 172 life members and life subscribers and 295 annual subscribers. In addition to receipts from these, the library receives a grant from Government and from local bodies. A large number of books, both on general and technical subjects, have been collected, and in 1909 a well-equipped commercial and technical section was added.

Punjab Historical Society.

706. The Punjab Historical Society was established in 1910, mainly through the efforts of Mr. J. P. Thompson, I.C.S., to promote the study of the history of the province. The membership now exceeds 150. Papers are read as opportunity offers, and are subsequently published in the society's journal. The large field of inquiry which lies before the society is such as to interest all sections of the community.

Society for Promoting Scientific Knowledge.

707. Although not strictly speaking a literary society, the Society for Promoting Scientific Knowledge calls for notice. Established in 1900, the society now has branches at Multán, Amritsar, Delhi, Kapúrthala and Srínagar (Kashmír), and numbers some 250 members. This non-sectarian and non-political body is now registered under Act XXI of 1860, and has for its object the diffusion of useful and scientific knowledge. In particular special attention is devoted to spreading knowledge of the elementary principles of sanitation and preventive medicine by means of lectures, lantern demonstrations and the distribution of tracts on such subjects as Tuberculosis, Malaria, Cholera and Plague. More recently classes in Hygiene and First Aid to the Injured have been started. A monthly magazine in Urdu, the "Raushni," is published. An annual grant of Rs. 200 is received from the Local Government and contributions from Municipalities and District Boards.

57.—Arts and Sciences.

School of Art.

708. The Mayo School of Art has already been mentioned in a previous section as one of the educational institutions of the province. The industrial training afforded by the school, however, is by no means the only object of the institution, and a large part of the time of the staff and pupils is devoted to outside work. The work done in connection with the Delhi Durbar has already been referred to. Among other work undertaken, the designing of the buildings of the Khalsa College at Amritsar and of Queen Mary's College at Lahore was carried out by the School of Art. Specimens of work done were sent to the Franco-British Exhibition of 1908 and to the Allahabad and Lahore Exhibitions.

Lahore Central Museum.

Attendance.

709. The total number of visitors during the year was 382,828 and the daily average was 1,091, evidence of an ever-increasing growth in the popularity of the Museum. Not the least satisfactory feature of the year has been the

tendency of local colleges to send parties of students under teachers to study the different collections. The twelve "purdah" days show an attendance this year of 3,526, figures again which plainly indicate that the privilege of a reserved day is being more and more appreciated.

Additions.

710. Among the noteworthy additions made to the Museum are some brass statuettes of Buddha, of Bodhisattvas, and Hindu deities, some copper, brass and wooden statuettes of Lamaistic subjects, a temple banner, and a bas-relief. The latter, a most interesting specimen, relates to the birth of Buddha's horse, Kanthika, and groom, Chanda, born at the same time with Buddha himself. The collection of pictures has been enriched by the acquisition of 188 old pictures and drawings of the Kangra School and a few other pictures. An interesting addition to the Tibetan collection has been a beautiful carved wooden panel brought in the expedition of 1904 from a monastery in Lhasa.

One very notable presentation was made. His Imperial Majesty the King Emperor having been graciously pleased to present to the Museum one of the tigers that fell to his gun in Nepal.

The services of Mr. Hargreaves of the Archæological Department have been lent for the purpose of cataloguing the Buddhist sculptures. Mr. Hargreaves' catalogue will be most interesting to scholars, and supply a long-felt want.

With the addition of Mr. Bleazby's collection of Græco-Bactrian coins, obtained at a cost of Rs. 12,000, half of which was paid by the Punjab Government and half by the Director-General of Archæology in India, the Lahore Museum can now boast the second-best collection of Indo-Greek coins in the world. Of this collection, and of the Mughal Cabinet, Mr. Whitehead is now engaged in making catalogues. The catalogues will amalgamate the Government, the Rodgers, the Supplementary, and the Bleazby collections, and will be very valuable contributions to numismatic literature.

Eight finds of coins were reported under the Treasure Trove Act, aggregating 49 gold and 1,500 silver coins, of which 3 gold and 276 silver coins were purchased, a find of 893 Mughal rupees in Gujranwala district included several new and unpublished coins.

Rearrangement of collection.

711. The policy of gradually overhauling all the collections, improving the arrangement, making list of the objects in each case and labelling each separate exhibit is being continued. Particular attention has been paid during the past year to the collections of inscriptions, of textile fabrics, of art ware and of photographs. The collection of snakes, which has a special interest for the zamindar public, has been rearranged by Dr. Caleb while Dr. Pilgrim of the Geological Survey has rearranged the fossils making them more interesting to the lay mind and more accessible to the student.

Finance.

712. The expenditure amounted to Rs. 15,361-8-9, the whole of which was defrayed by Government with the exception of Rs. 180 contributed by the Lahore Municipality and Rs. 132-8-6 from the sale of coin catalogues, guide-books and surplus coins. A special grant of Rs. 6,000 was made by the Punjab Government for the purchase of the collection of Græco-Bactrian coins. It has now become necessary to consider the question of the expansion of the building, as the galleries are already over-crowded with exhibits.

Lantern lectures.

713. Fifteen lectures in the Museum Hall were arranged by the Curator and eight by the society for promoting scientific knowledge. The attendance was often disappointingly small and it is clear that there is not at present a public in Lahore prepared to pay even a fee of one anna for lectures of this type. The Government grant of Rs. 1,500 was expended largely on new slides. A special feature of the year's work has been the increase in slides lent out. There is no doubt that the privilege of borrowing slides is becoming increasingly appreciated.

CHAPTER VIII.

ARCHÆOLOGY.

Detailed information on the subject of this chapter will be found in the annual progress reports of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore, and of the Superintendent, Muhammadan and British Monuments, Northern Circle, Agra, for the year ending 31st March 1912, also in the Administration Report of the Buildings and Roads Branch, Public Works Department, Punjab, for the year 1911-12.

58.—Archæology.

Hindu and Buddhist Monuments.

Notifications.

714. The site of Taxila, Rawalpindi district, and the Siva temples at Dasál and Nagar in the Kulu sub-division of the Kángra district were placed by Government notification under the protection of the Ancient Monuments Preservation Act (VII of 1904). Rupees 1,653-9-3 were spent on conservation in 1911-12.

Publications.

715. During the year Dr. Vogel published Part I of his "Antiquities of Chamba State" (Volume XXXVI of the new Imperial series of the Archæological Survey of India) and "Tile Mosaics of the Lahore Fort" (Volume XIV of the Journal of Indian Art and Industry). A description of the temple of Mahadeva at Bajaura in Kulu by Dr. Vogel appeared in the Annual Report of Archæology for 1909-10.

The preparation of the list of ancient monuments of the Punjab is being continued and will take many more years to complete. During the year the temples of the Bharmaur and Churáh Wazarats of Chamba were visited for the purpose. Lists of British Láhul and Spiti have been prepared by Dr. Francke of the Moravian Mission. The list of Kángra Monuments is now practically ready for publication.

Muhammadan and British Monuments.

Notifications.

716. Seventeen buildings were placed under the protection of Act VII of 1904. Ten of these are at Hissar, Hansi and Fatahabad in Hissar district. At Shahdara, outside Lahore, Jahangir's Mausoleum, the sarai adjoining, and the tomb of Asaf Khan and Nurjahan have been notified. Other notifications declare as "protected monuments" the Sawi mosque at Multán, Sheikh Tayyib's mosque at Kaithal in Karnál and Ali Mardan Khan's tomb at Lahore. Nineteen other monuments at Delhi and Lahore are being recommended for protection.

Excavation.

717. Much interesting work has been carried out at the Kutab (Delhi). The whole of Ala-ud-din's north extension has been exposed and Altamsh's screen, immediately to the north of the mosque, has been cleared of earth and rubbish and a series of column bases were found underneath at this point: a lower plinth was also found on the temple wall some five feet down below the ground level. At the Purána Killa, Delhi, a start has been made to open up the Talaki Gate and a fine ashlar gateway has been disclosed. In the Delhi Fort an underground passage was discovered between the Rang and Mumtaz Mahals and will be examined.

Conservation.

718. The improvement scheme proposed for the Delhi Fort in 1902 by the Director-General of Archæology has now been carried out, in its main essentials, in accordance with his original proposals. Rupees 81,240 were spent on this work during the year. Much activity was shown at Delhi in view of the Royal visit and special grants were made both by the Durbar Committee and by the Imperial and Provincial Governments. At the Kutab all the land has been acquired to the furthest limits of Ala-ud-din's northern extension. Repairs of the old masonry will be put in hand as soon as the neces-

sary examination can be made. At Lahore useful work has been done during the year on the Shish Mahal in the Fort, on the garden and tomb of Nurjahan and on Jahangir's tomb at Shahdara. The restoration of the Badshahi Mosque has been taken in hand, to which work the Mosque Committee is contributing, and a scheme for relaying the Hazuri Bagh containing Ranjit Singh's Báradari has been prepared. Much, however, remains to be done at the Lahore Fort. At Multan the tomb of Rukn-i-Alam has been carefully examined and the fears entertained as to the safety of the structure prove to be largely exaggerated. Improvements have also been introduced at the Shahi mosque, Chiniot, in Jhang district. Altogether Rs. 1,32,918-10-1 have been spent during the year on conservation in the Punjab.

Publications.

719. Little or no progress was made with the systematic listing of monuments which, as in the case of the Hindu and Buddhist monuments, will take years to carry out. Articles on the Shah Burj at Delhi Fort and on the Diwan-i-Am, Lahore Fort, were contributed to the Annual Report of Achæology for 1909-10.

Inscriptions on Christian tombs.

720. Separate mention must be made of the " List of inscriptions on Christian tombs or monuments in the Punjab, North-West Frontier Province, Kashmir and Afghanistan, possessing historical or archæological interest,"* published as Part I of volume II of the series of " Indian Monumental Inscriptions." The volume contains lists only, as the biographical notes have perforce been relegated to a second part : and in point of antiquity the Punjab has nothing to show that can compare with the Dutch and Portuguese inscriptions of the 16th and 17th centuries which are found in Madras and Bengal. The melancholy interest of the subject forms the theme of an admirable historical introduction in which the mingled pathos and glory of the events kept alive by the monuments have been treated with unerring sympathy.

GENERAL.

Museums.

721. An account of the Lahore Central Museum is given in the preceding section.

The Delhi Museum of Archæology has been transferred from the Nakarkhana to the Mumtaz Mahal in the Fort, which was given up by the Military authorities for the purpose, and converted to the use of a museum.

A valuable collection of loan exhibits was brought together in the Museum in connection with the Imperial Durbar : the articles selected for exhibition having some connection with the history of Delhi, its rulers or its famous men. A scholarly catalogue of the exhibits was compiled by Mr. J. P. Thompson, I.C.S., the information given in which is of permanent value.

---

*By Miles Irving, I.C.S., 1910, printed at the Punjab Government Press.

CHAPTER IX.

MISCELLANEOUS.

59.—ECCLESIASTICAL JURISDICTION.

Church of England.

See of Lahore.

722. The Punjab which was originally included in the See of Calcutta, s, by Royal Letters Patent, constituted a separate diocese in December 77, and the Right Reverend T. V. French, D.D., was appointed its first hop, with the style and title of Bishop of Lahore. At the end of 1887 hop French resigned the See, and on the 6th of January 1888 the Venerable ry James Matthew, D.D., Archdeacon of Lahore, was consecrated in estminster Abbey Bishop of Lahore. Bishop Matthew died in December 98, and the Reverend George Alfred Lefroy, D.D., formerly head of the mbridge Mission, Delhi, was consecrated Bishop by the Bishop of Calcutta d four other Bishops in the Cathedral at Lahore on the 1st of November 99. The See of Lahore as constituted by Letters Patent includes the njab, the North-West Frontier Province, and the Province of Sind, which s formerly a part of the Bombay Diocese. The Bishop also exercises clesiastical jurisdiction in Kashmír and in the Persian Gulf. With the tension of British Military occupation on the South-West Frontier the clesiastical jurisdiction of the Bishop has also extended to Quetta and other ces in Southern Balúchistán occupied by British troops. Like all other dian Sees, the Lahore See is subject to the authority of the Bishop of lcutta as Metropolitan. By authorization of the Letters Patent two Arch-deacons are appointed by the Bishop; one, with the title Archdeacon of Lahore, from among the Senior Chaplains, who exercises Archidiaconal juris-diction within the limits defined above; the other, with the title Archdeacon of Delhi, appointed specially to supervise and stimulate the work among the Indian congregations of the diocese.

Chaplains.

723. Chaplains on the Bengal (Lahore) Ecclesiastical Establishment are posted at the following stations in the Punjab :—

- Delhi.
- Ambála.
- Simla.
- Jullundar.
- Amritsar.
- Dalhousie.
- Lahore.
- Lahore Cantonments.
- Ferozepore.
- Siálkot.
- Ráwalpindi.
- Ráwalpindi, West Ridge.
- Campbellpur.
- Murree.
- Multán.

Chaplains are also posted to Kasauli, Subáthu and Dagshái ; but, owing to the large number of hill stations in the Punjab, the Chaplains for these stations are selected as follows :—

For Kasauli and Subáthu, from the Chaplains of the diocese of Calcutta ; and for Dagshái, from the Chaplains of the diocese of Rangoon.

A Chaplain from the diocese of Lahore is every third year deputed to Kashmír, from the 1st of May to the 30th of September, the Bishop of Calcutta and the Bishop of Lucknow nominating for the two intervening seasons. Two Chaplains are usually placed in charge of the Military Camps lying between Dungagali and Murree for the same period.

Besides these Chaplains on the regular establishment, the Additional Clergy Society maintains Clergymen at Lahore (Railway District), and at Jhelum, in the Punjab. The ministrations of the Chaplain at Lahore are exclusively on behalf of Railway employés. These Clergymen receive allowances from Government (as grants-in-aid) and from other funds raised by the Additional Clergy Society.

Lahore Cathedral.

724. The interior of the Lahore Cathedral was completed in 189[…] two western towers were left unfinished, but these have just been ta[…] hand and will shortly be completed at a cost of about Rs. 60,000. A proposal to extend the nave westwards by the addition of two bays, estimated cost of about another Rs. 70,000, has been accepted by the D[…] Conference and the Cathedral Vestry, but for this addition funds have […] been raised.

Church of England Institutions.

725. The following are the principal Educational Institutions […] Punjab which are Diocesan, or in which the religious teaching is that […] Church of England :—

(1) Lahore Divinity College, Church Missionary Society.

(2) The Lawrence Asylum, Sanáwar (Simla Hills).

(3) The Lawrence Asylum, Murree.

(4) Bishop Cotton's School, Simla.

(5) Auckland House School, Simla.

(6) The Mayo Orphanage and School for girls, Simla.

(7) Christ Church Schools at Simla.

(8) St. Denys' School for girls at Murree.

(9) The Cathedral Orphanages at Lahore.

(10) Cathedral High Schools for boys and for girls at Lahore.

(11) Indian Christian Boys' Schools :—Baring High School, B[…] (Gurdáspur), Vernacular Middle School, Clarkabad (Laho[…]

(12) Indian Christian Girls' Schools :—Alexandra High S[…] Amritsar, Middle School, Amritsar, Primary Schools at C[…] abad, Narowál (Siálkot) and Ajnála (Amritsar).

(13) Boys' Mission Schools at Multán, Baháwalpur, Amri[…] Majítha (Amritsar), Batála, Fatehgarh (Gurdáspur), Náro[…] and Kotgarh (Simla).

(14) Girls' Mission Schools at Amritsar, Jandiála (Amritsar) […] other places.

Church of Scotland.

Church of Scotland.

726. The Punjab forms part of one of the six Presbyteries, by which […] Church of Scotland is represented in India, the whole Presbytery compri[…] the Punjab, the North-West Frontier Province, Jammu and Chamba. E[…] Presbytery consists of all the ministers of the Church of Scotland who h[…] appointments of the Church within its bounds and one elder sent by e[…] Kirk-Session within the same bounds. The Presbytery meets at vari[…] centres to transact business connected with the Church.

Chaplains or acting Chaplains are stationed permanently at Amb[…] Dalhousie (Summer only), Kasauli, Lahore, Murree and the Galis (Summer on[…] Ráwalpindi, Siálkot and Simla. There are Scottish soldiers at Delhi, Amrit[…] Ferozepore, Jullundar and Multán and at Sabathu, Solan, Dagshái and Jut[…] in the Simla Hills who are regularly visited from other stations.

Scottish regiments are usually accompanied by their own Chaplain, […] acts as the Chaplain of the station, while the regiment remains, the o[…] Chaplain, if the station is one of those mentioned above, being for the time […] elsewhere. At the present time there is no Scottish regiment within the bo[…] of the Presbytery of the Punjab and North-West Frontier Province.

The Chaplaincy work of the Punjab is under the direction of […] Presidency Senior Chaplain of Bengal, Calcutta.

Missions.

734. The Church Missionary Society began work in the Diocese of Lahore in 1851 on the arrival of the late Rev. Robert Clark, M.A., who completed almost 50 years of work in the country. Geographically its Missions may be divided into three sections,—(*a*) those of the Central Punjab, with main stations at Lahore, Amritsar, Tarn Táran, Batála, Nárowál, Ajnála, Asrapur (Amritsar), Clarkabad, Gojra, Toba Tek Singh and Multán: (*b*) the long Frontier line comprising Simla and Kotgarh; Islámabad and Srínagar; Peshâwar, Bannu, Tánk, Dera Ismail Khan and Sakhi Sarwar; Quetta and the Kelát country: (*c*) the Sind stations of Shikárpur, Sukkur, Hyderabad and Karáchi. Church Missionary Society.

The European Missionaries, including those on furlough, consist of 31 Clergymen, 15 men and 5 women Doctors, 10 Nurses, and 21 other lay missionaries (8 men, 13 women); and there are besides 18 Indian Clergymen and 13 Indian Doctors, as well as a considerable staff of Catechists, School Teachers and Hospital workers. The work is mainly of three kinds, *viz.*, (1) in connection with the Mass Movement towards Christianity in the villages of the Central Punjab, notably around Batála, Nárowál and Clarkabad, and in the Chenab Colony; (2) Medical, including seven main hospitals for men and women combined, and three for women only; these are all on the frontier line

... com- ... head-quarters of the force for India and Ceylon being in Simla. Operations began in the Punjab about 10 years ago and the Army has now 318 officers working under its banner in this province. ... as of the Salvation Army, apart from proselytism, are chiefly directed ... reformation of criminals, the regeneration of criminal and other depressed ... and the improvement, partly as a means to these ends, of village ... tries, in particular hand-loom weaving and silk production Centres have ... formed in Lahore, Ludhiána, Chawa (Ludhiána), Kot Mokhal (Siálkot), Changa Manga (Lahore), Ani (Kulu) and Chini (Bashahr). It is the policy of the Salvation Army to make each of its enterprises pay its way, and in the prosecution of this policy a large measure of success has been obtained. Salvation Army.

60.—Ecclesiastical.

748. In the year 1911-12 the Government of India sanctioned the occupation by the civil authorities of a plot of land in the Dalhousie cantonment as a site for the proposed new military church in that cantonment. A grant-in-aid of Rs. 4,100 was sanctioned towards the construction of an Anglican Church at Lyallpur, and another of Rs. 56,112 for a church for the large Railway population in Lahore who had previously worshipped in a tomb which had been adapted as a church. The Local Government sanctioned a grant for special repairs to the cemetery at Adamwahan (Multán) which had been considerably damaged by the floods of 1906 and arranged for its future maintenance in decent order by Civil authorities of Multán. Grants.

61.—Stationery.

749. The Punjab administration depends on the Stationery Department, Calcutta, for its stationery requirements. The value of issues in 1911-12 to the officers in the Punjab aggregated Rs. 2,12,260, *viz.*, cost of printing paper Rs. 1,33,356 and of office stationery Rs. 78,904, against Rs. 1,25,391 and Rs. 1,21,914, respectively, in the previous year, aggregating Rs. 2,47,305. The decrease in office stationery is due to the introduction of the system of fixed annual allotments for offices and departments. Issues.

62.—Punjab Government Press.

750. The income of the Press during the year 1911 12 amounted to Rs. 28,897, exceeding that of the preceding year by Rs. 3,870. There has been a steady increase in the income of the Press during the past four years, as shown below:— Income and expenditure.

	Rs.
1908-09	19,326
1909-10	21,902
1910-11	25,027
1911-12	28,897

and three ordained native pastors. Mission work is also carried on by the Church of Scotland Women's Association for Foreign Missions at G Siálkot, Chamba and Daska. There are 18 lady missionaries, 28 teachers and number of native assistants.

American Presbyterian Mission.

740. The American Presbyterian Church began operations in the Punjab in 1834, its first station being Ludhiána. In 1849 Messrs. Newton and Forman began work in Lahore. The following stations and districts in the Punjab are occupied by the Mission :—Ludhiána, Khanna and Jagraon (Ludhiána district) Lahore and Kasur, Ferozepore, Jullundur, Hoshiárpur, Subáthu (Simla Hills and Ambála. Santokh Májra is in charge of an itinerant Missionary. There are in connection with the Mission 26 ordained foreign Missionaries and 7 Medical Missionaries, of whom 6 are ladies. There are, in addition to the above, 18 lady Missionaries, and 34 ordained Native Ministers are connected with the Mission. The Mission's Forman Christian College at Lahore teaches up to the M.A. Standard of the Punjab University, and has 500 students in attendance. This institution receives a grant from Government. It has also important educational work in the Boys' Boarding School at Ludhiána and the Girls' School at Hoshiárpur for the benefit of the Indian Christian community. In addition to these there are High Schools for the general public at Lahore, Jullundur, Ludhiána and Ambála.

(6) The Mayo Orphanage and School for girls, Simla.

(7) Christ Church Schools at Simla.

(8) St. Denys' School for girls at Murree.

(9) The Cathedral Orphanages at Lahore.

(10) Cathedral High Schools for boys and for girls at Lahore.

(11) Indian Christian Boys' Schools :—Baring High School, Bat (Gurdáspur), Vernacular Middle School, Clarkabad (Lahore

(12) Indian Christian Girls' Schools :—Alexandra High Sch Amritsar, Middle School, Amritsar, Primary Schools at Cla abad, Narowál (Siálkot) and Ajnála (Amritsar).

(13) Boys' Mission Schools at Multán, Baháwalpur, Amrits Majítha (Amritsar), Batála, Fatehgarh (Gurdáspur), Náro and Kotgarh (Simla).

(14) Girls' Mission Schools at Amritsar, Jandiála (Amritsar) other places.

CHURCH OF SCOTLAND.

Church of Scotland.

726. The Punjab forms part of one of the six Presbyteries, by which Church of Scotland is represented in India, the whole Presbytery compri the Punjab, the North-West Frontier Province, Jammu and Chamba. Ea Presbytery consists of all the ministers of the Church of Scotland who h appointments of the Church within its bounds and one elder sent by ea Kirk-Session within the same bounds. The Presbytery meets at vari centres to transact business connected with the Church.

Chaplains or acting Chaplains are stationed permanently at Amb Dalhousie (Summer only), Kasauli, Lahore, Murree and the Galis (Summer on Ráwalpindi, Siálkot and Simla. There are Scottish soldiers at Delhi, Amrit Ferozepore, Jullundar and Multán and at Sabathu, Solan, Dagshái and Ju in the Simla Hills who are regularly visited from other stations.

Scottish regiments are usually accompanied by their own Chaplain, acts as the Chaplain of the station, while the regiment remains, the o Chaplain, if the station is one of those mentioned above, being for the time elsewhere. At the present time there is no Scottish regiment within the bou of the Presbytery of the Punjab and North-West Frontier Province.

The Chaplaincy work of the Punjab is under the direction of Presidency Senior Chaplain of Bengal, Calcutta.

744. The Baptist Zenana Mission is separate from the abov[illegible] managed throughout by ladies. There are stations at Delhi, Palwal (with a settlement at Salámatpur), Kharar and Bhiwáni (Hissar), with 21 English lady Missionaries. Boarding schools are maintained at Delhi and Kharar and five day schools, the number of scholars being 428. The society has hospitals at Palwal and Bhiwáni, three dispensaries in Delhi, and others at Bhiwáni and Hánsi (Hissar). Zenana Mission.

745. The Zenana Bible and Medical Mission has stations at Lahore and Kasúr in Lahore district and employs at these places ten Missionaries or Assistant Missionaries. There are schools in both stations—the Kinnaird High School at Lahore having an attendance of 162 girls. Zenana Bible and Medical Mission.

746. The Moravian Mission was opened in 1853 for work among Tibetan speaking populations beyond other Missionary enterprises. The stations in the Punjab are at Pu on the Upper Sutlej in Bashahr State and at Kailang in Lahul: the head-quarters of the Mission are at Leh. Moravian Mission.

747. The work of the Salvation Army is under the direction of Commissioner Booth Tucker, the head-quarters of the force for India and Ceylon being in Simla. Operations began in the Punjab about 10 years ago a[illegible] the Army has now 318 officers working under its banner in this province. [illegible]ns of the Salvation Army, apart from proselytism, are chiefly directed [illegible] reformation of criminals, the regeneration of criminal and other depressed [illegible] and the improvement, partly as a means to these ends, of village [illegible]tries, in particular hand-loom weaving and silk production Centres have [illegible] formed in Lahore, Ludhiána, Chawa (Ludhiána), Kot Mokhal (Siálkot), Changa Manga (Lahore), Ani (Kulu) and Chini (Bashahr). It is the policy of the Salvation Army to make each of its enterprises pay its way, and in the prosecution of this policy a large measure of success has been obtained. Salvation Army.

60.—Ecclesiastical.

748. In the year 1911-12 the Government of India sanctioned the occupation by the civil authorities of a plot of land in the Dalhousie cantonment as a site for the proposed new military church in that cantonment. A grant-in-aid of Rs. 4,100 was sanctioned towards the construction of an Anglican Church at Lyallpur, and another of Rs. 56,112 for a church for the large Railway population in Lahore who had previously worshipped in a tomb which had been adapted as a church. The Local Government sanctioned a grant for special repairs to the cemetery at Adamwahan (Multán) which had been considerably damaged by the floods of 1906 and arranged for its future maintenance in decent order by Civil authorities of Multán. Grants.

61.—Stationery.

749. The Punjab administration depends on the Stationery Department, Calcutta, for its stationery requirements. The value of issues in 1911-12 to the officers in the Punjab aggregated Rs. 2,12,260, *viz.*, cost of printing paper Rs. 1,33,356 and of office stationery Rs. 78,904, against Rs. 1,25,391 and Rs. 1,21,914, respectively, in the previous year, aggregating Rs. 2,47,305. The decrease in office stationery is due to the introduction of the system of fixed annual allotments for offices and departments. Issues.

62.—Punjab Government Press.

750. The income of the Press during the year 1911 12 amounted to Rs. 28,897, exceeding that of the preceding year by Rs. 3,870. There has been a steady increase in the income of the Press during the past four years, as shown below :— Income and expenditure.

	Rs.
1908-09	19,326
1909-10	21,902
1910-11	25,027
1911-12	28,897

The total expenditure amounted to Rs. 2,00,318, or an increase of Rs. 5,672 over the figures of the preceding year, due chiefly to the entertainment of the establishment for book and job work transferred to the Government Press on the revision of the printing contract with the Civil and Military Gazette Press with effect from 1st April 1911.

751. The value of work turned out during the year was Rs. 1,57,677 as against Rs. 1,34,447 in the previous year, an increase of Rs. 23,230. The total number of pages set up in all founts of type during the year under report came to 63,571 as against 59,100 in the preceding year, exclusive of work done by Government contractors and paid for out of the Press grant. The cost per page was Re. 1-4-11 as against Re. 1-5-10 in the previous year, or a decrease of 11 pies per page. The reduction is satisfactory.

752. The cost of work done by the contractors for Government Printing for departments and offices during the years 1910-11 and 1911-12 was Rs. 54,492 and Rs. 49,247, respectively. An expenditure of Rs. 10,672 was also incurred during 1911-12 under an arrangement made with the Civil and Military Gazette Press for the storage and despatch of forms.

753. The machines and hand-presses are in good working order. Two of the older machines are to be replaced. A Monotype machine to be worked by electricity has been indented for.

The Press account registers were checked by the Inspector of Press Accounts in the year under report and were found correct.

It has been decided to construct new buildings for the Press near the Civil Secretariat Office. The Punjab Veterinary College will be located on the present site.